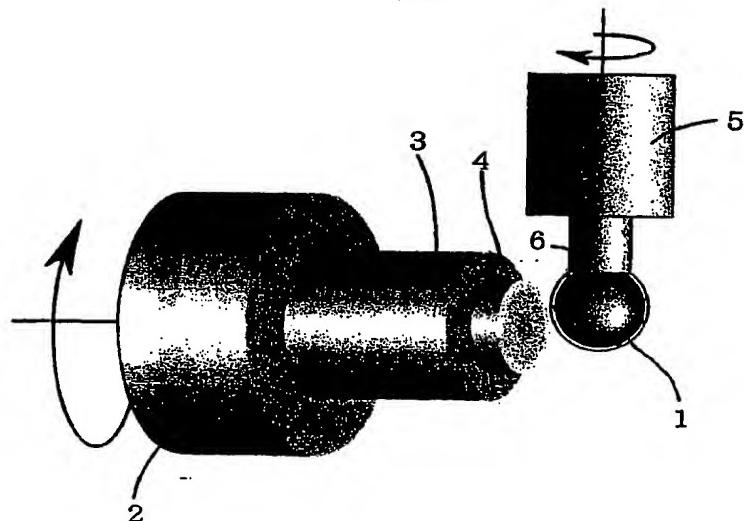


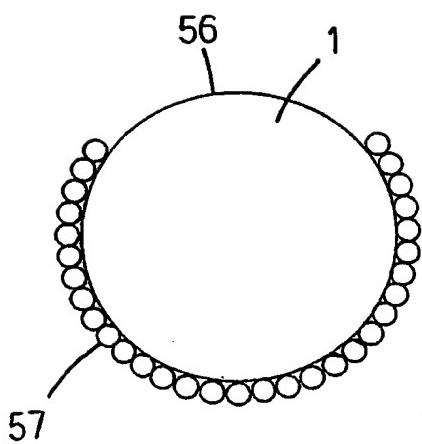
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Fig. I

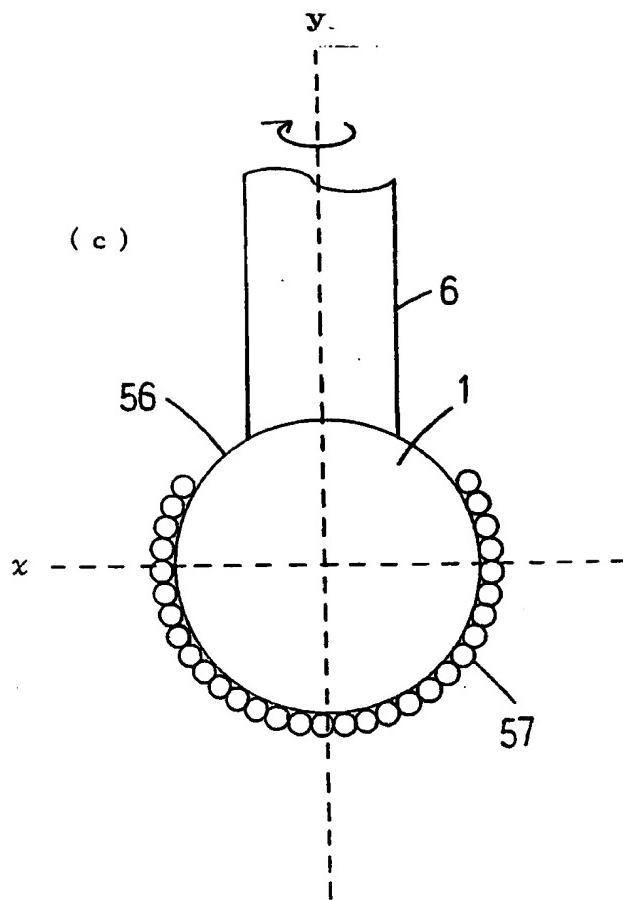
(a)



(b)

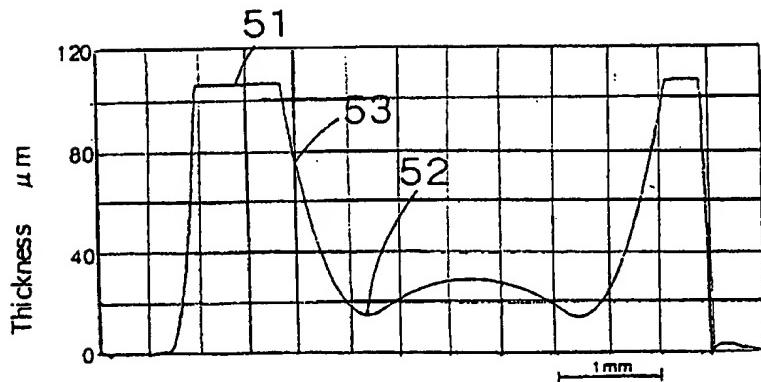


(c)

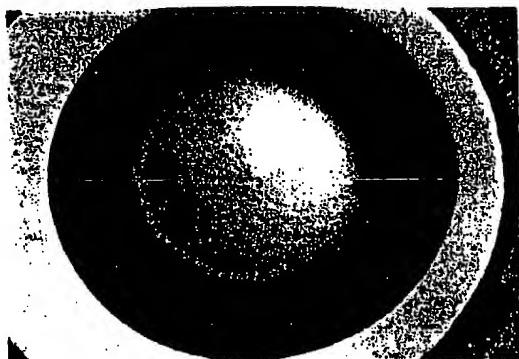


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Fig.2

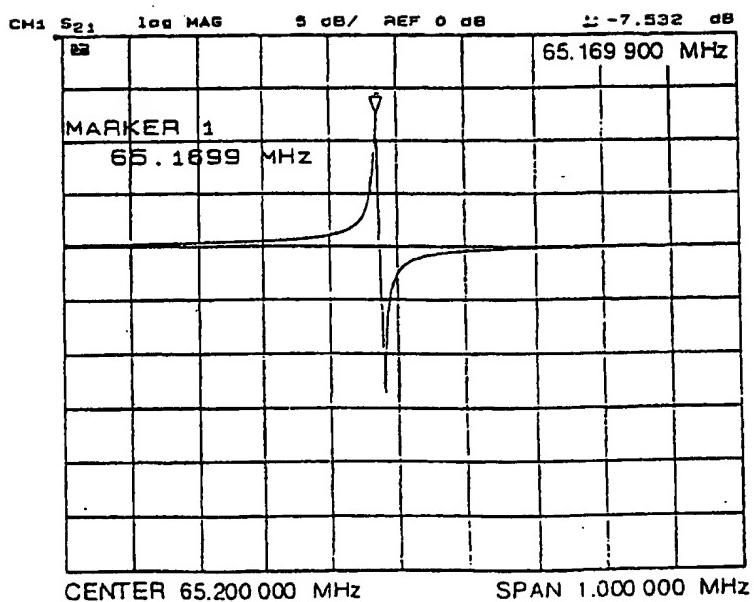
(a)



(b)



(c)

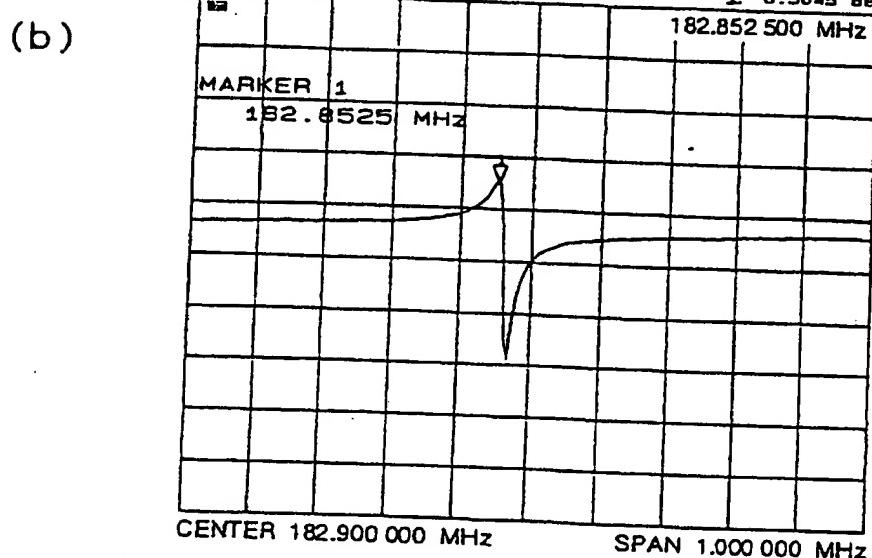
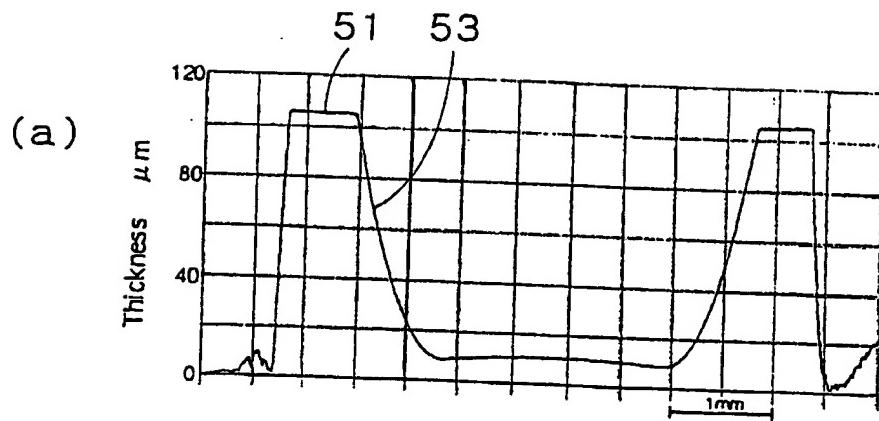


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Fig. 3



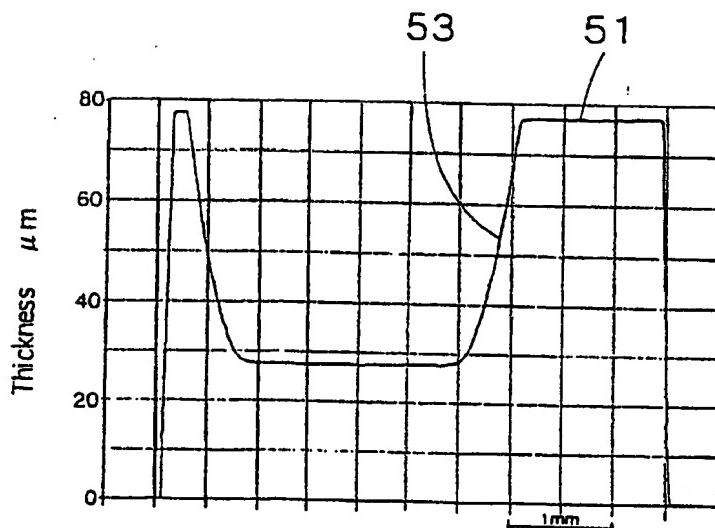
09/914975

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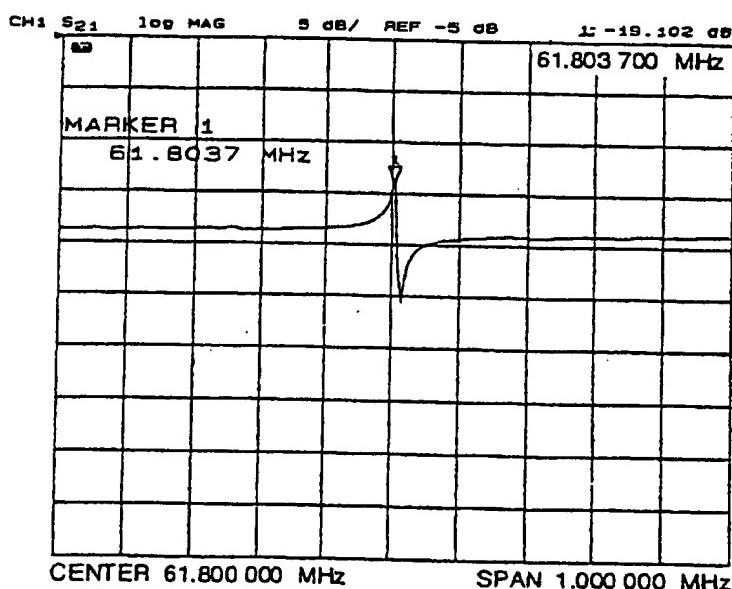
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Fig.4

(a)



(b)

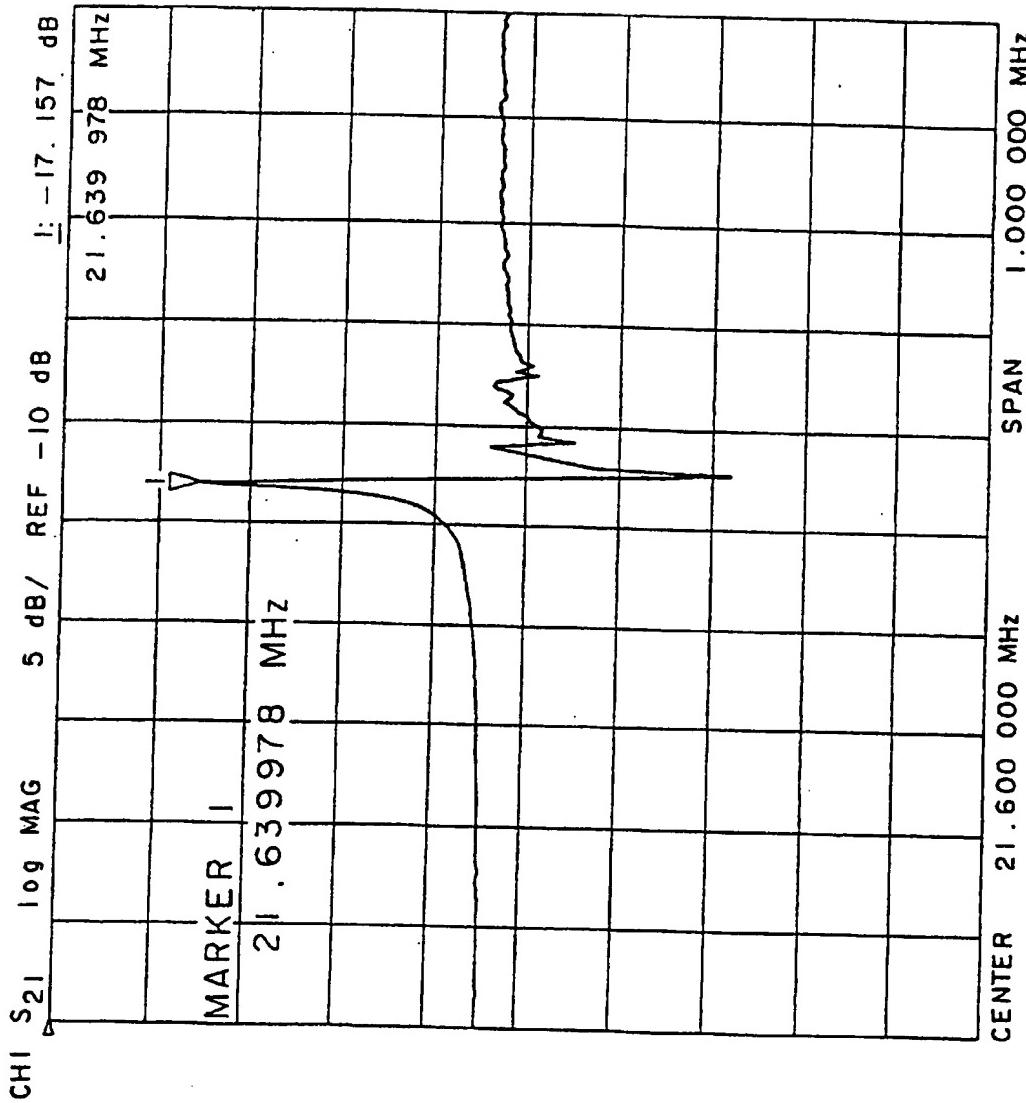


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Fig.5

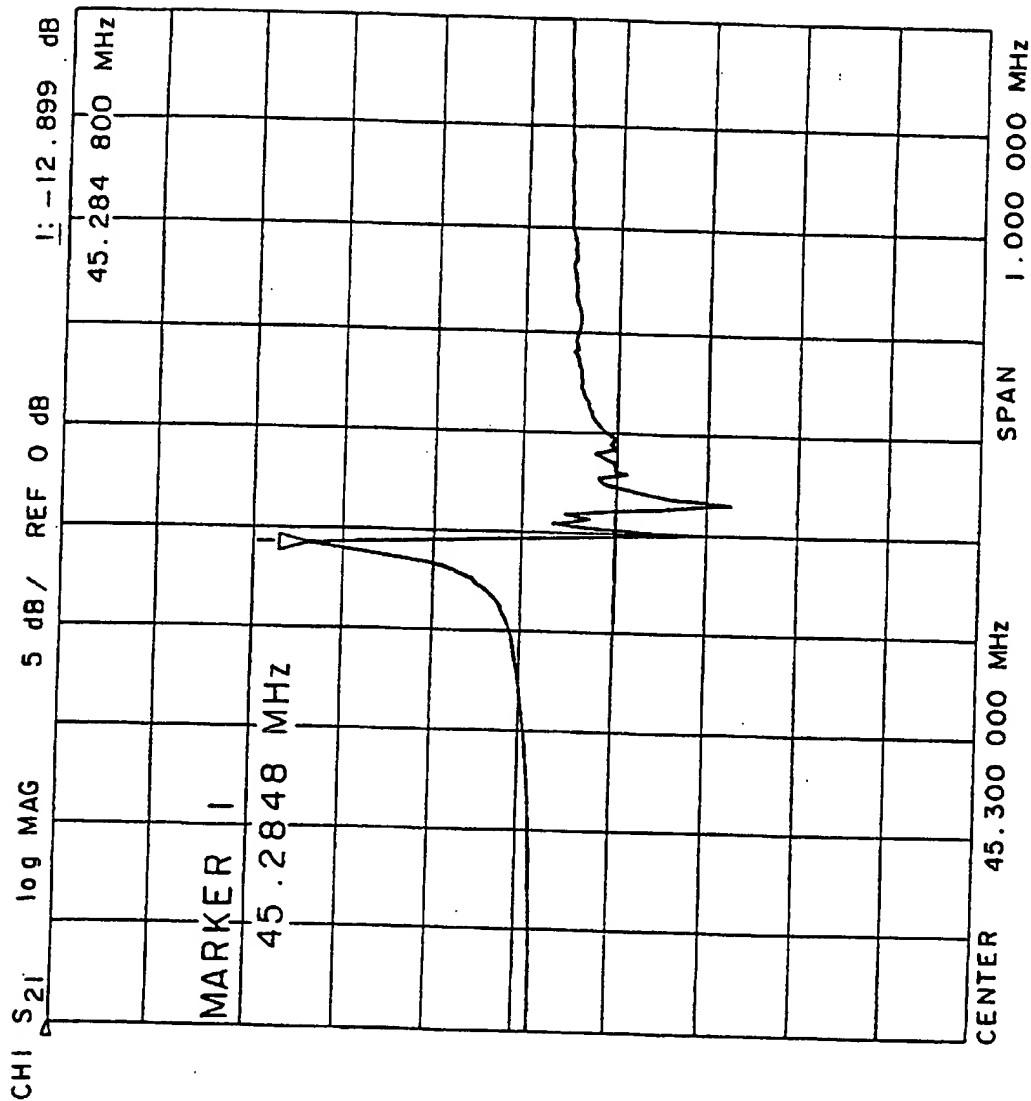


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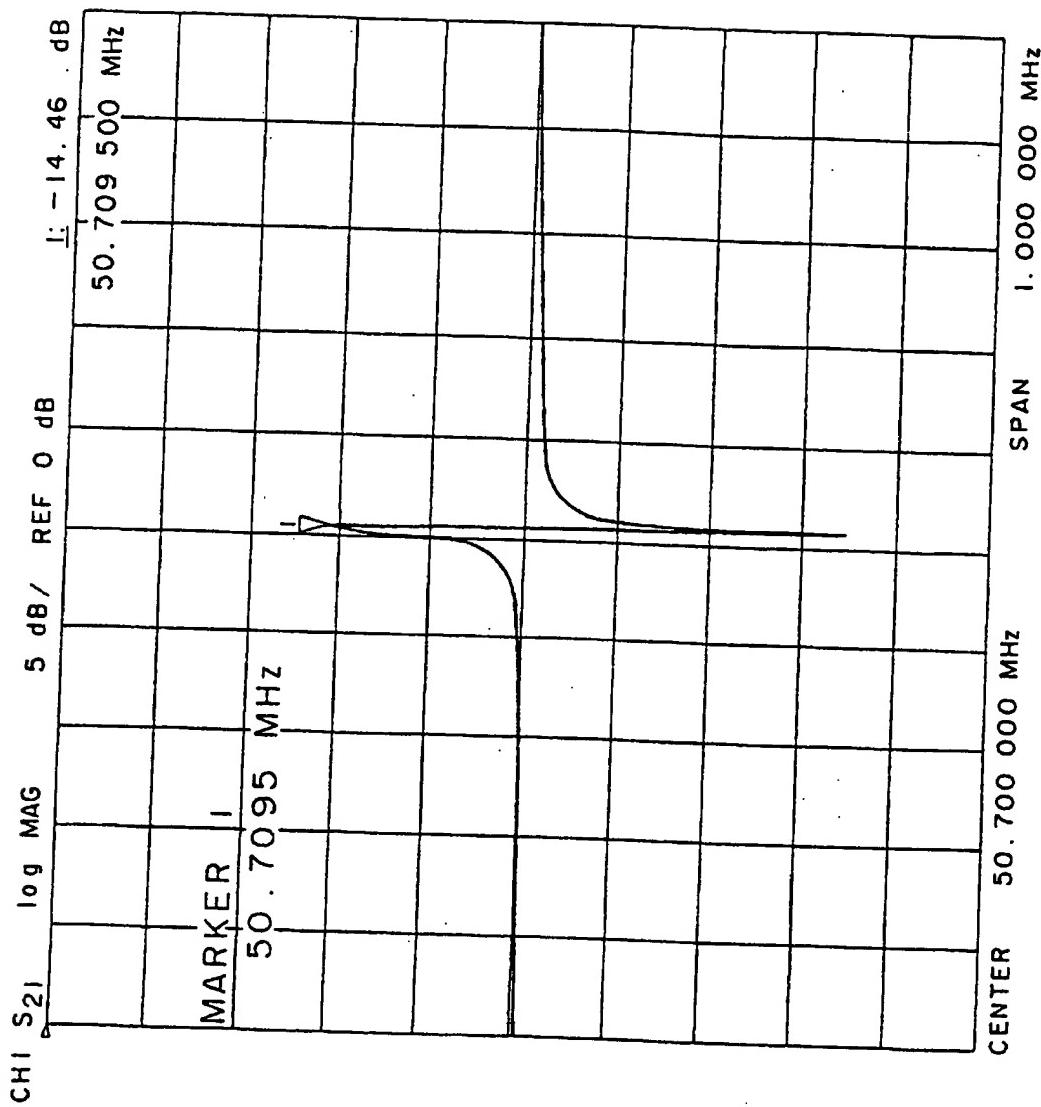
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Fig.6



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Fig.7

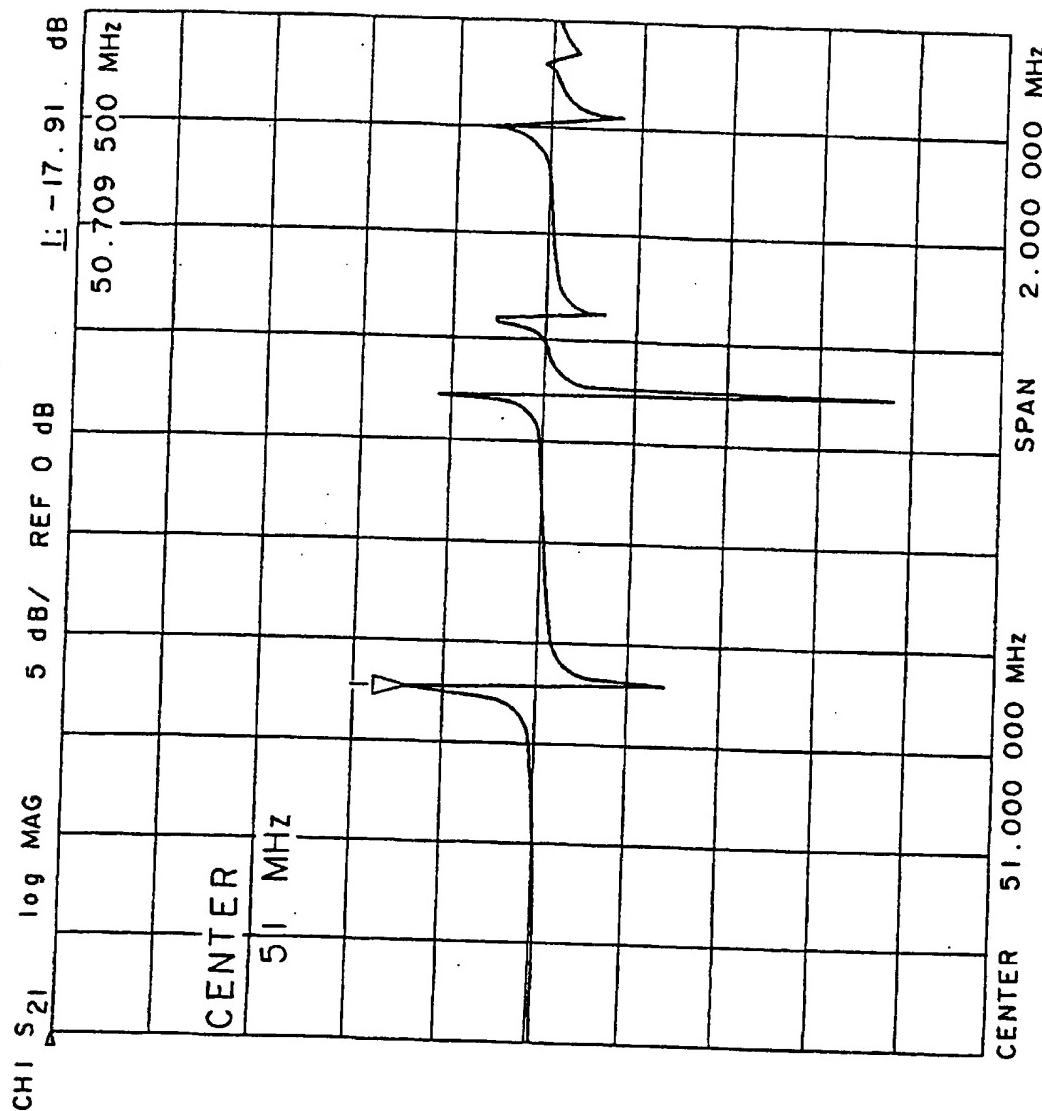


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Fig.8



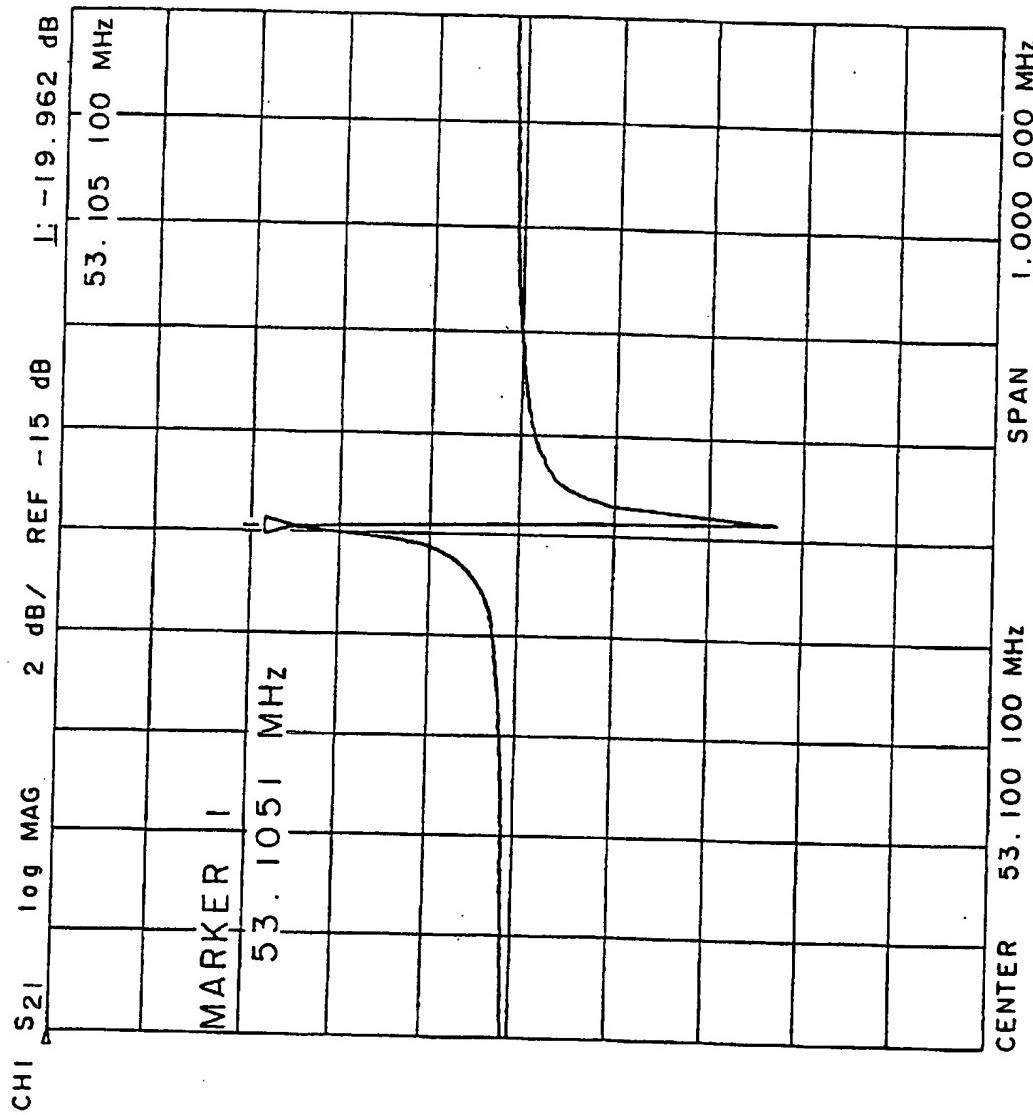
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Fig. 9



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Fig.10

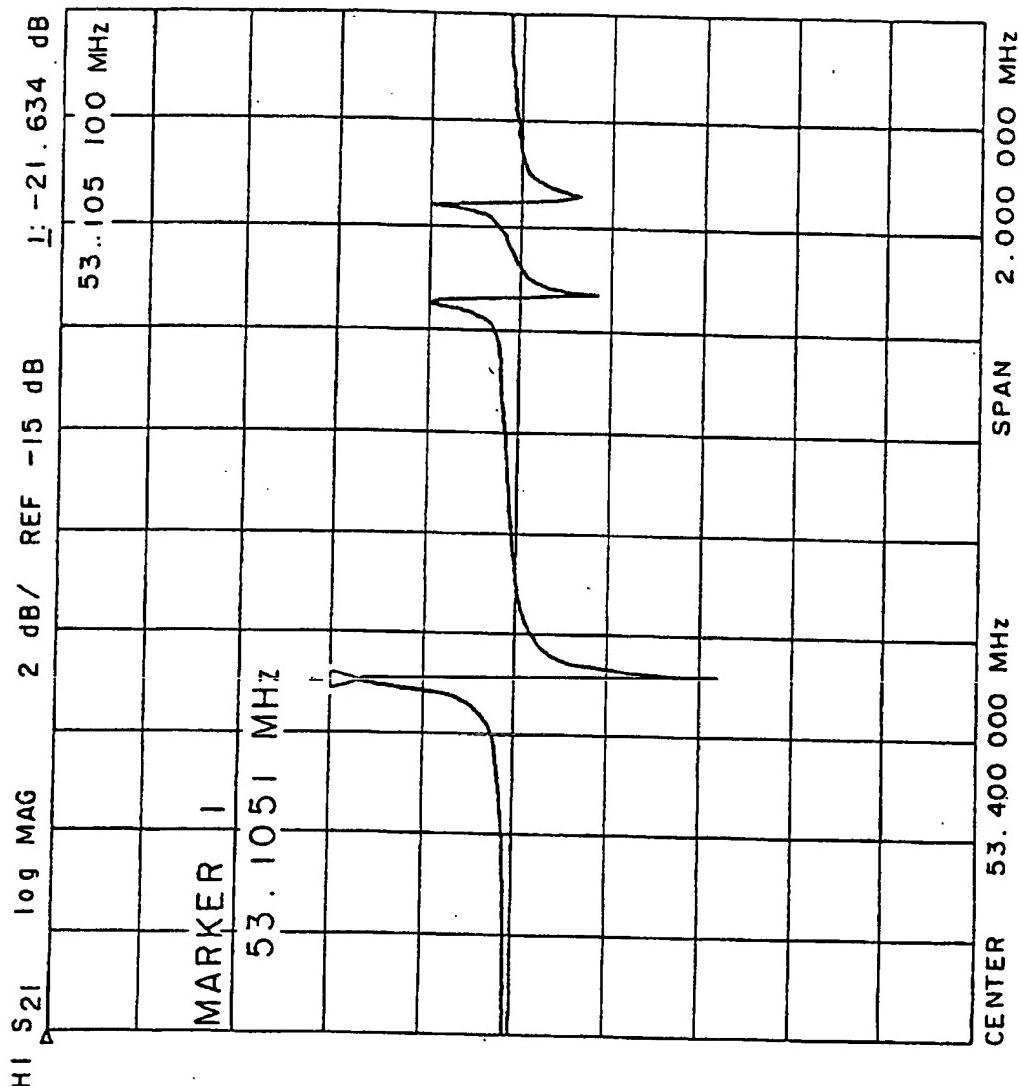


Fig.11

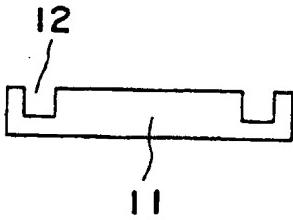
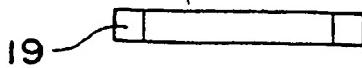


Fig.12



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Fig.13

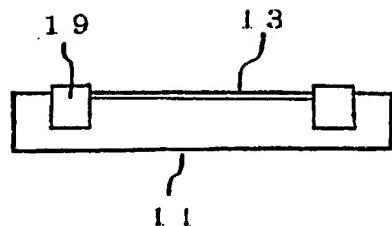


Fig.14

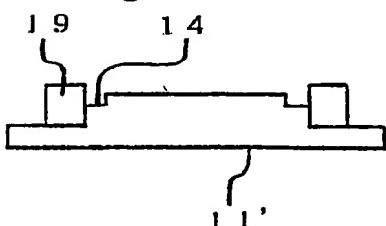


Fig.15

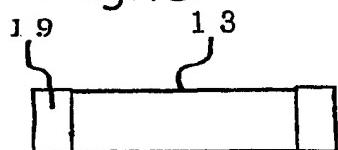
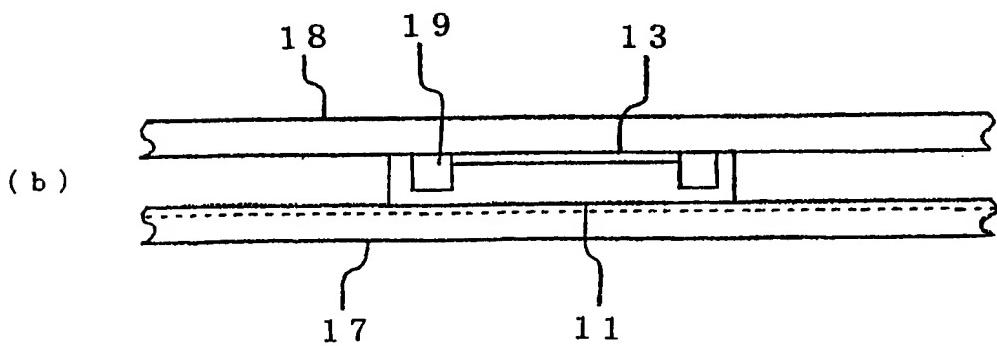
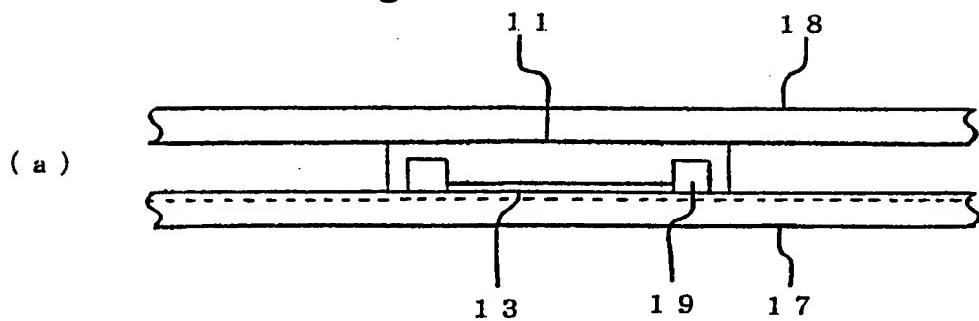


Fig.16



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Fig.17

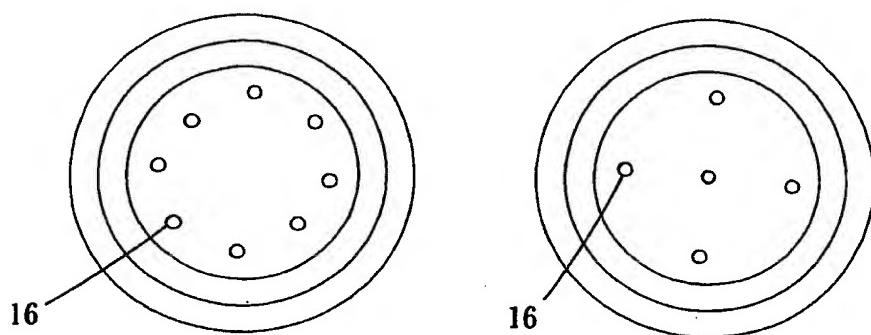


Fig.18

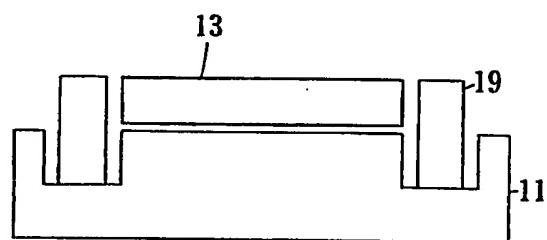
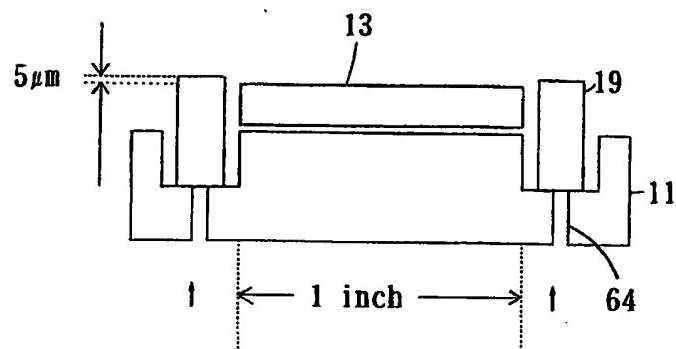


Fig.19



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Fig.20

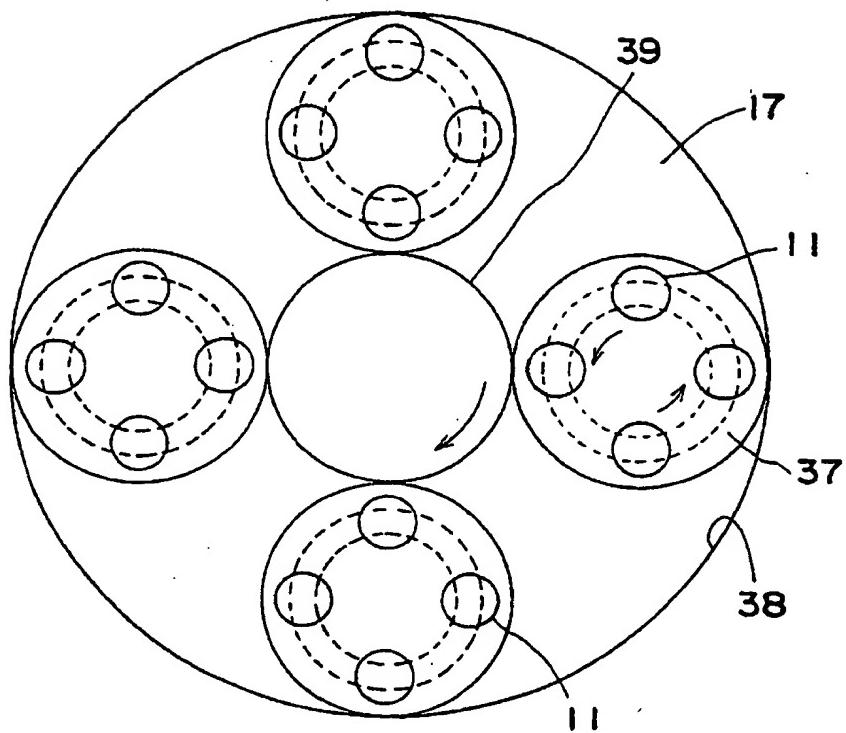
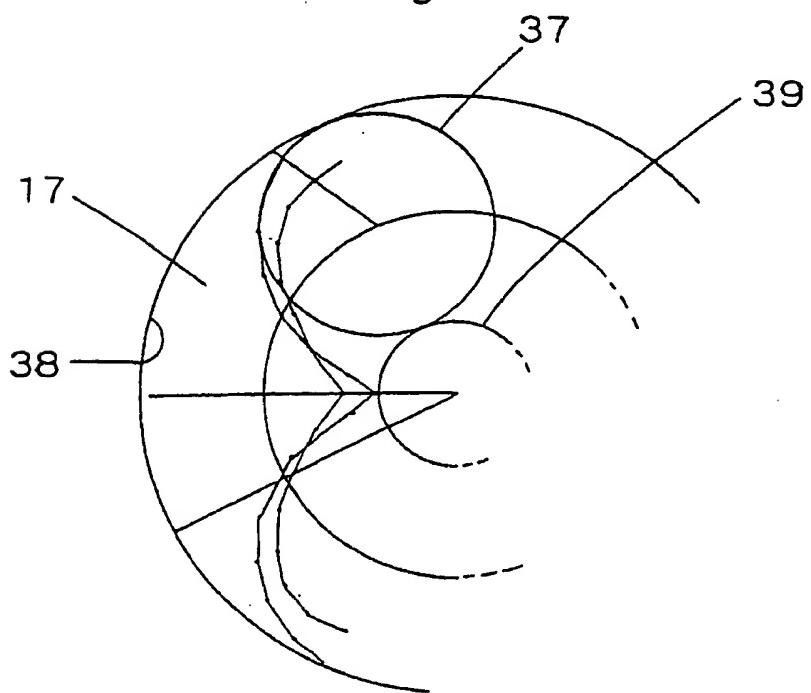


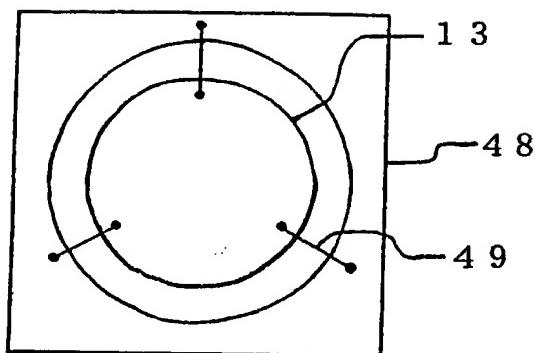
Fig.21



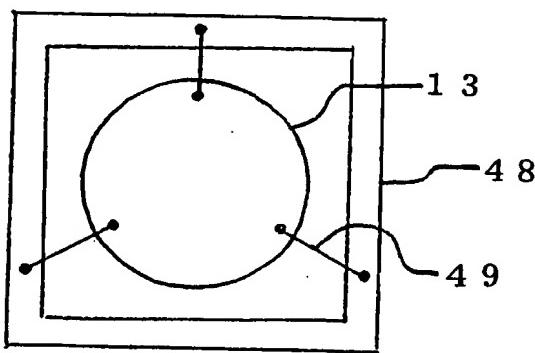
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Fig.22

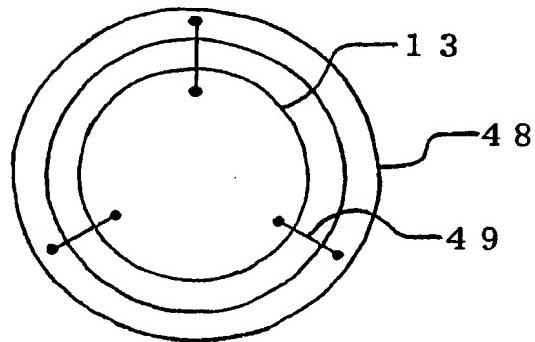
(a)



(b)



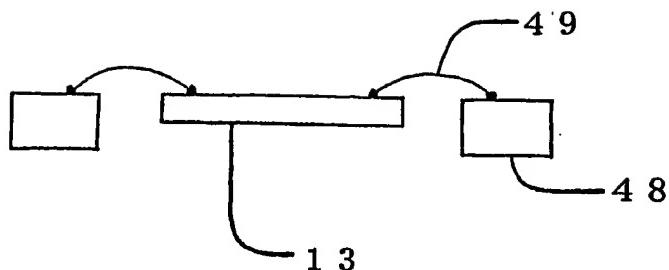
(c)



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Fig. 23

(a)



(b)

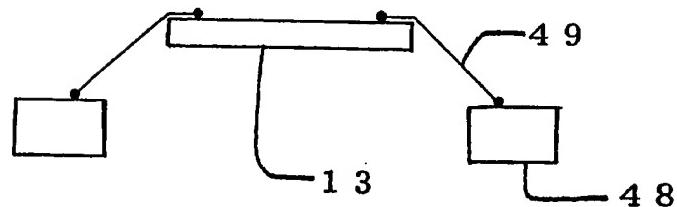
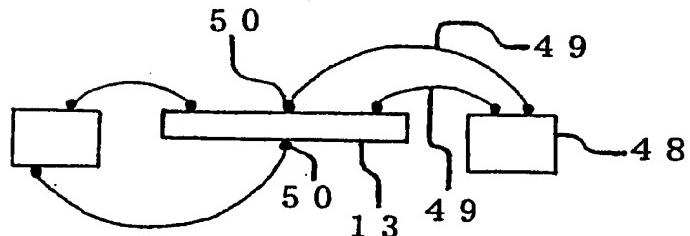
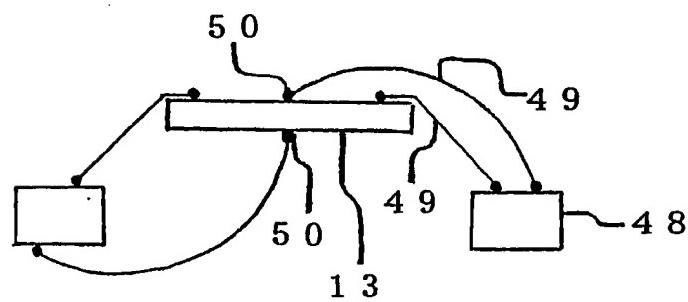


Fig. 24

(a)



(b)



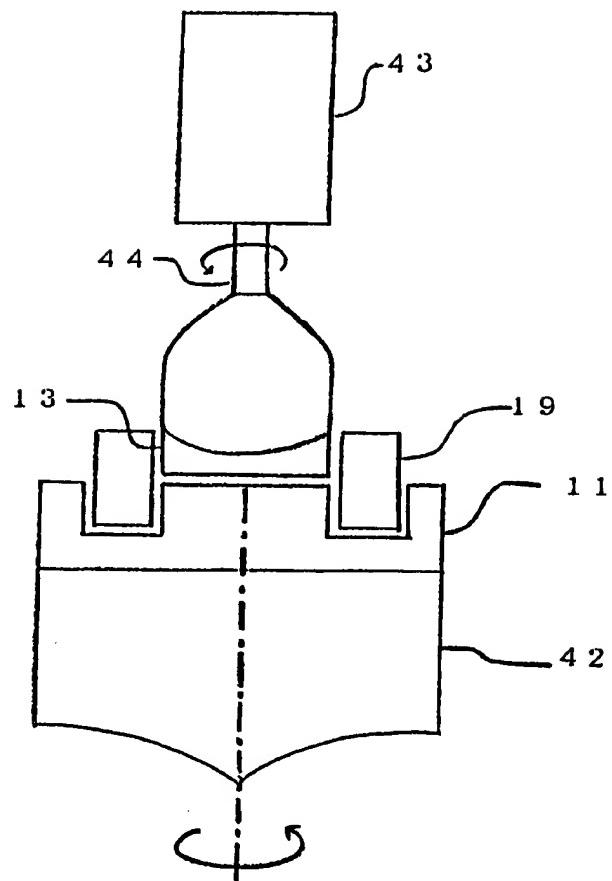
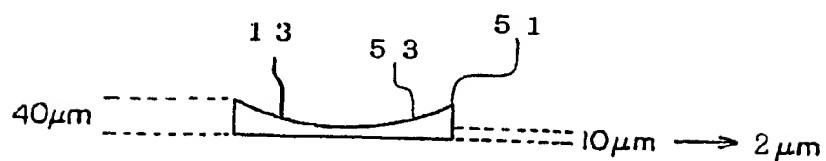
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Fig. 25

Fig. 26



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Fig.27

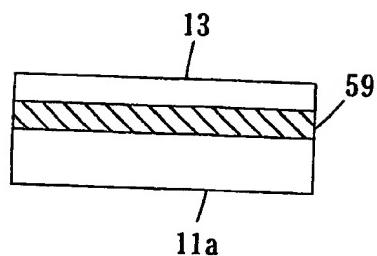


Fig.28

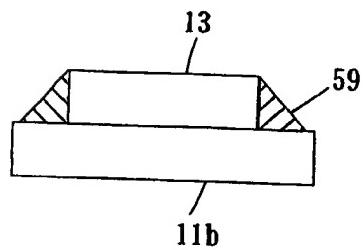
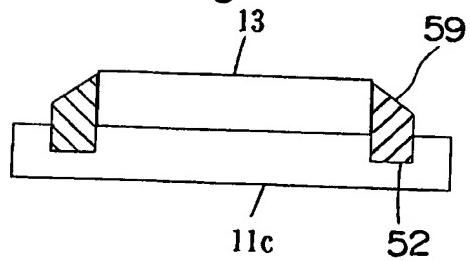
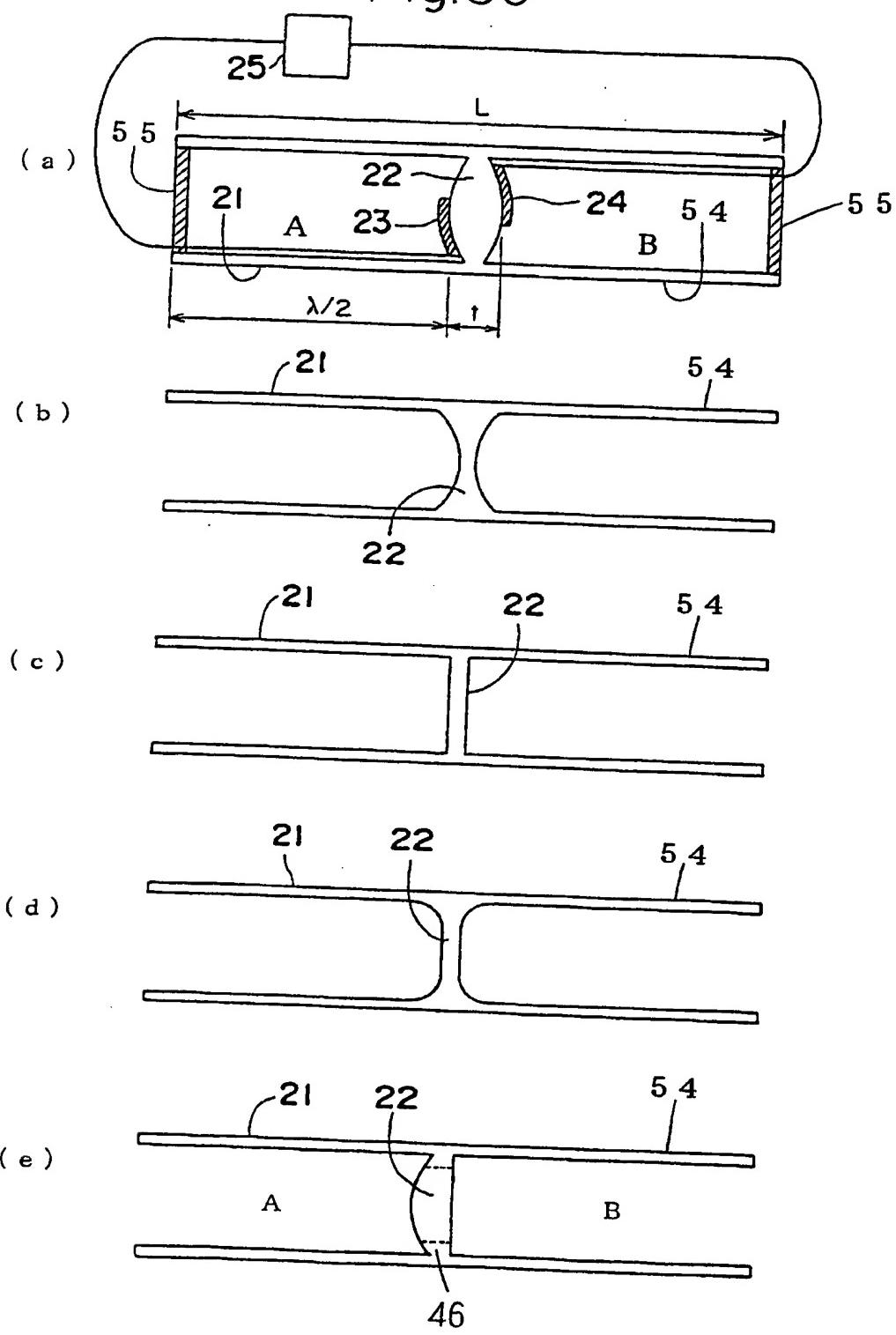


Fig.29



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Fig.30

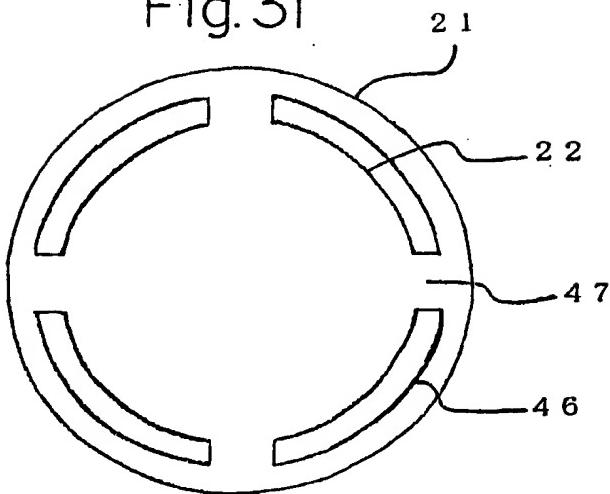
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Fig. 31

Fig. 32

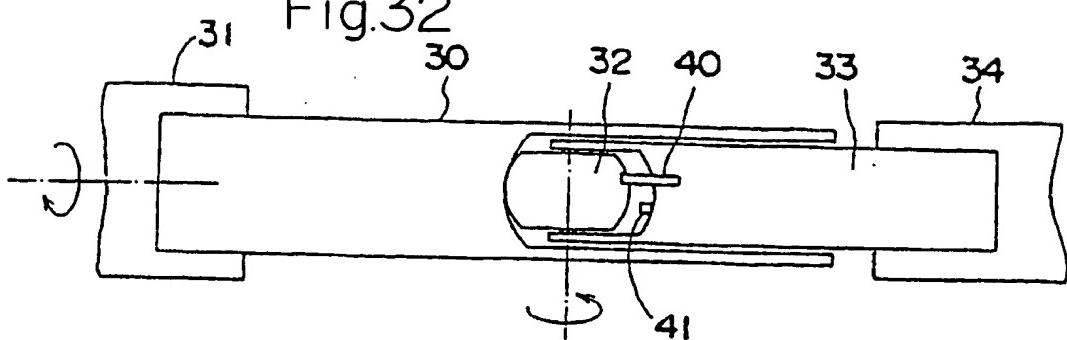


Fig. 33

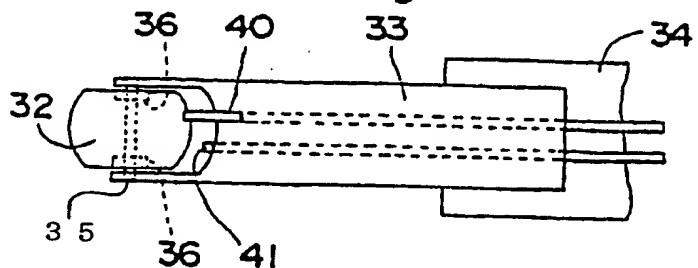
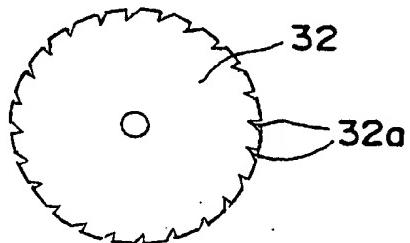
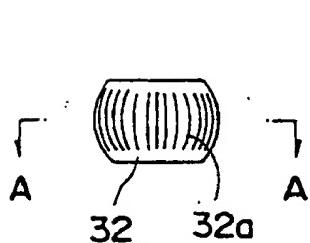


Fig. 34

(a)

(b)



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Fig.35

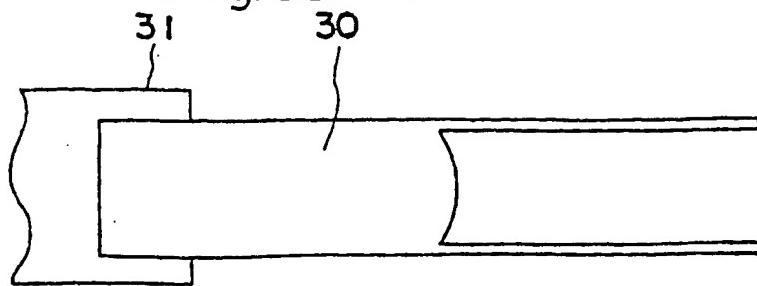
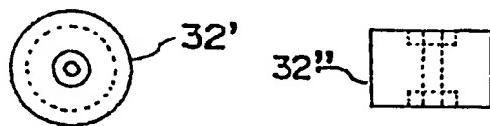


Fig. 36

(a)

(b)

(c)

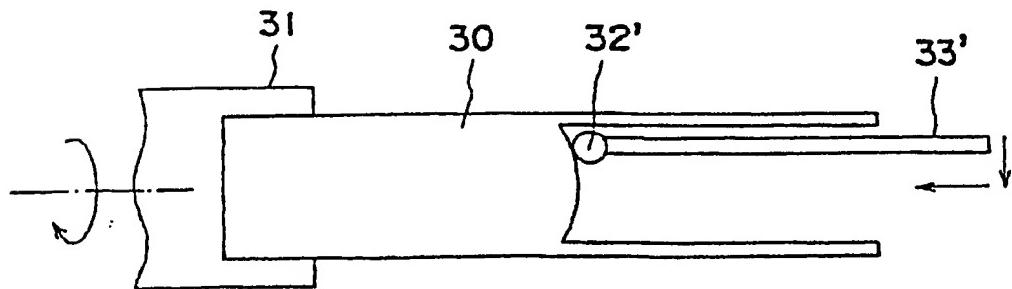


(d)

(e)



Fig. 37



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Fig.38

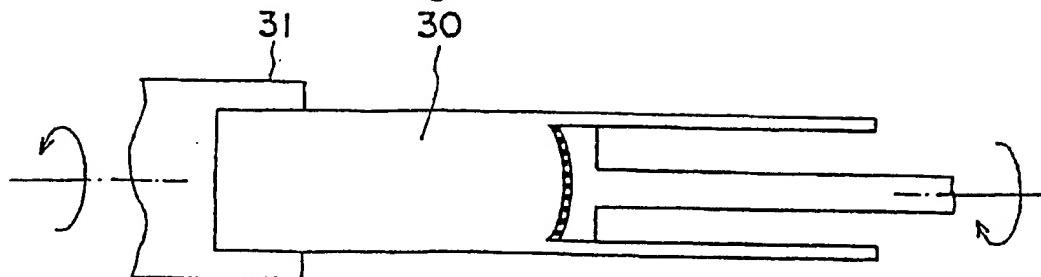


Fig.39

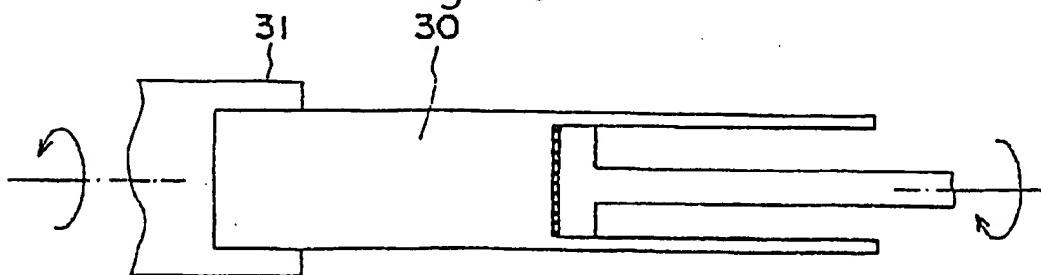
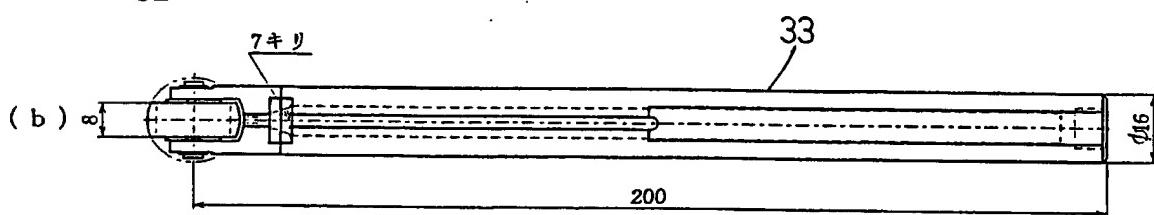
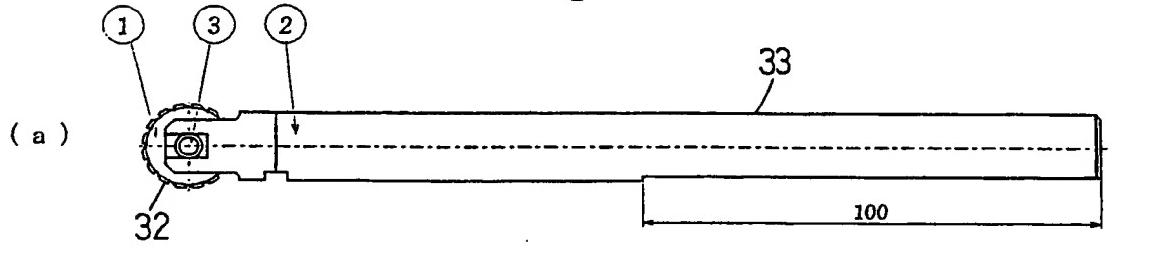


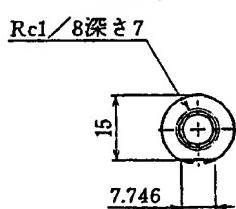
Fig.40



(c)



(d)



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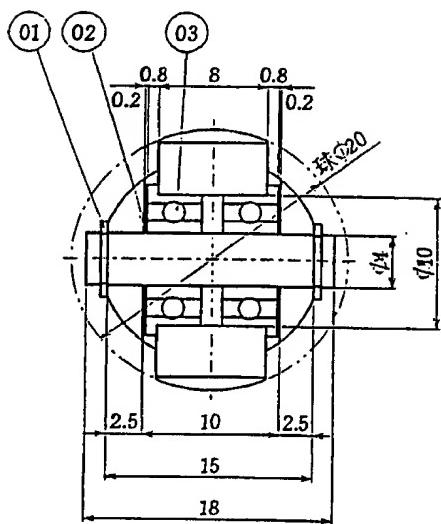
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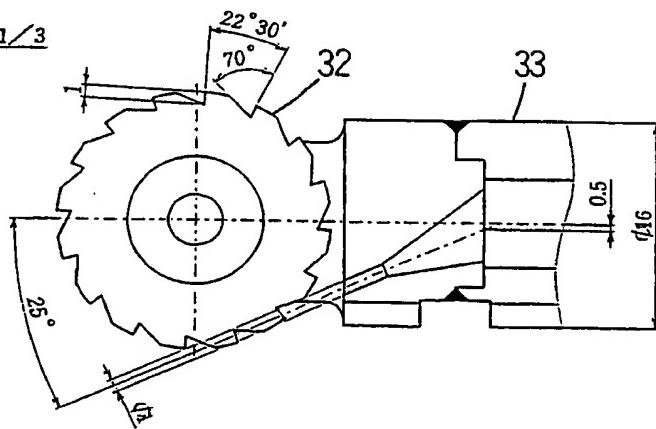
Fig. 41

(a)



(b)

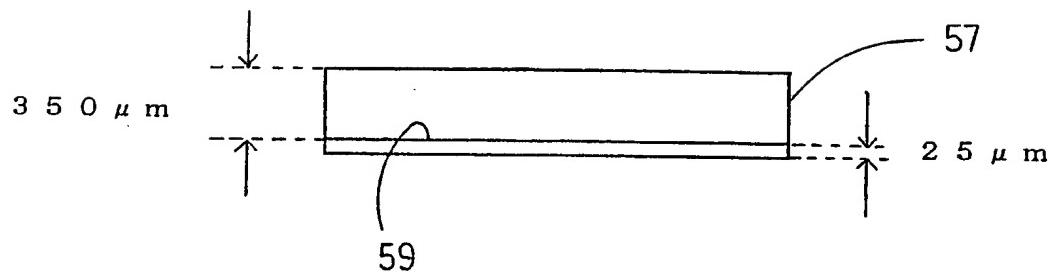
SCALE 1/3



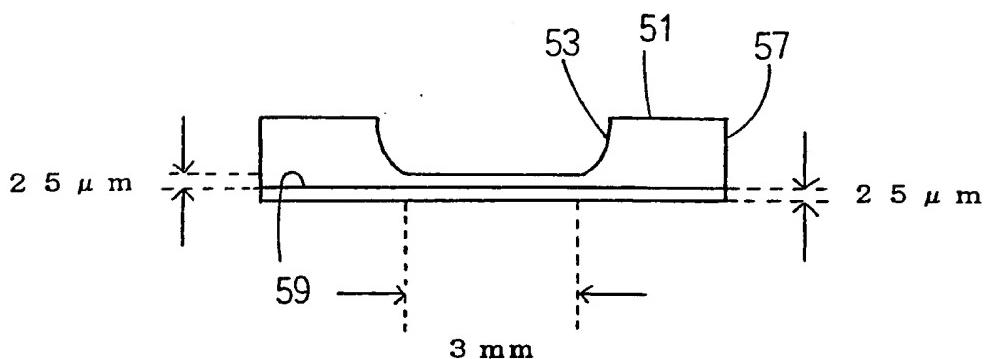
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Fig. 42

(a)

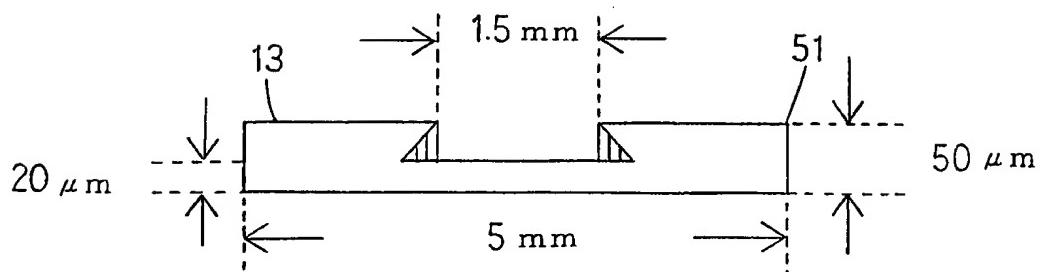


(b)

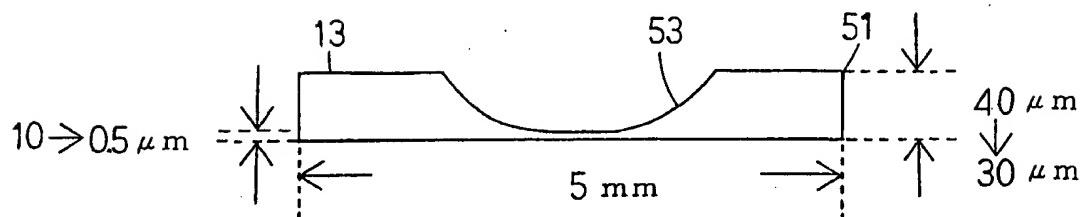


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Fig. 43

(a)

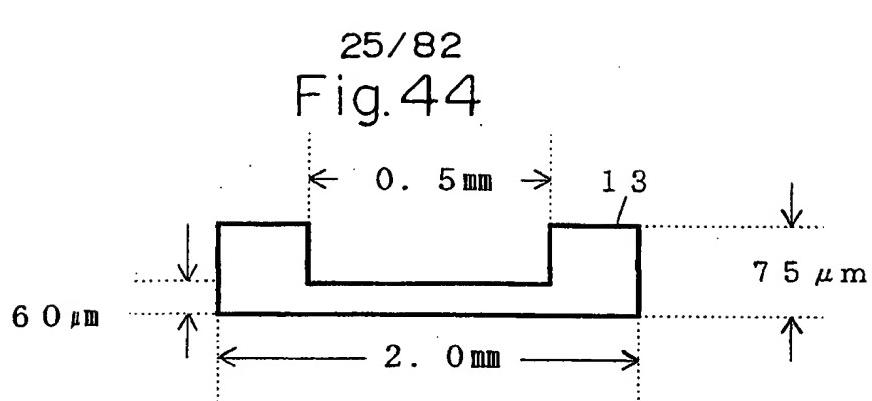


(b)

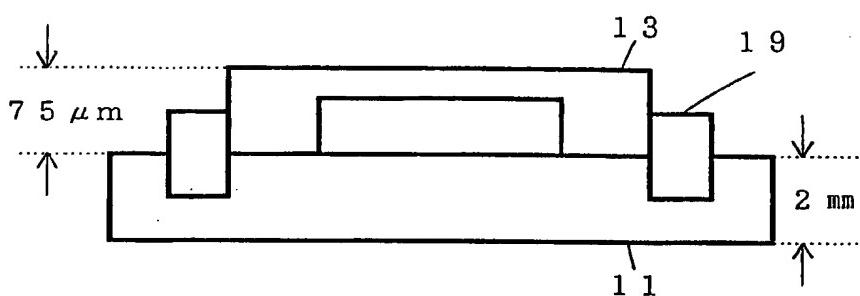


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Fig. 44

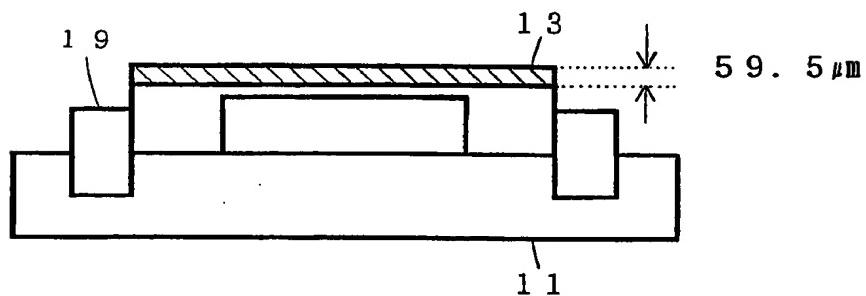
(a)



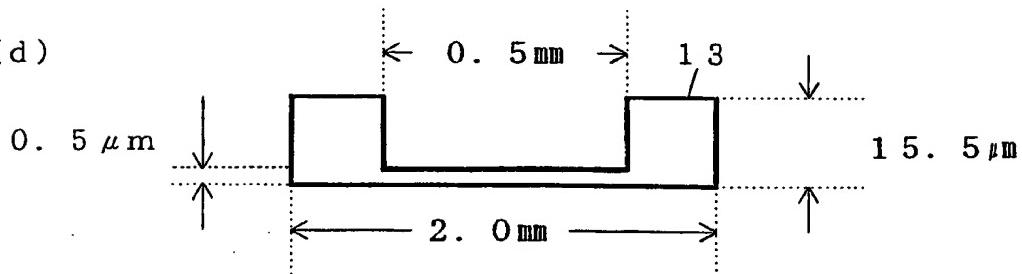
(b)

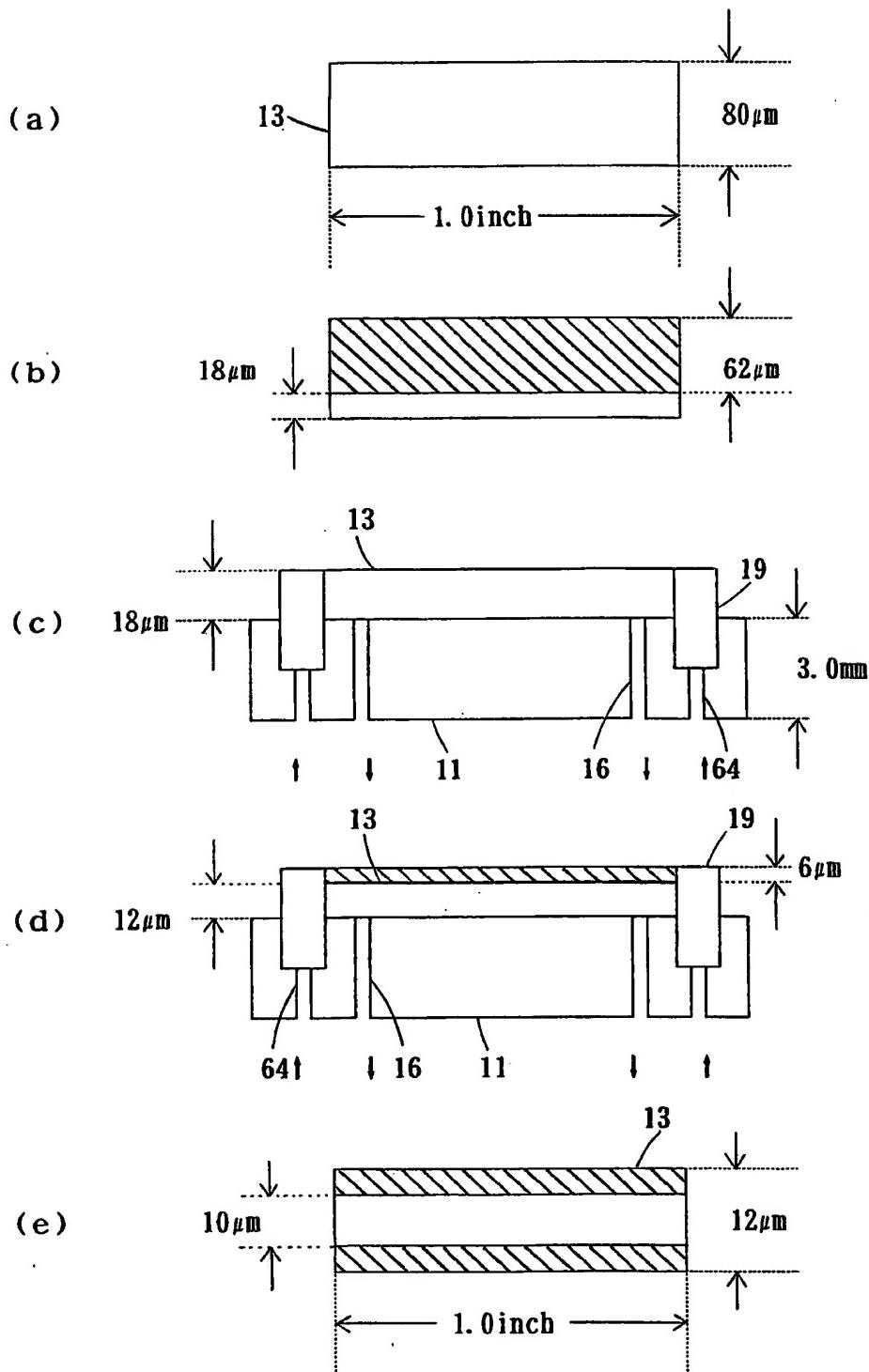


(c)

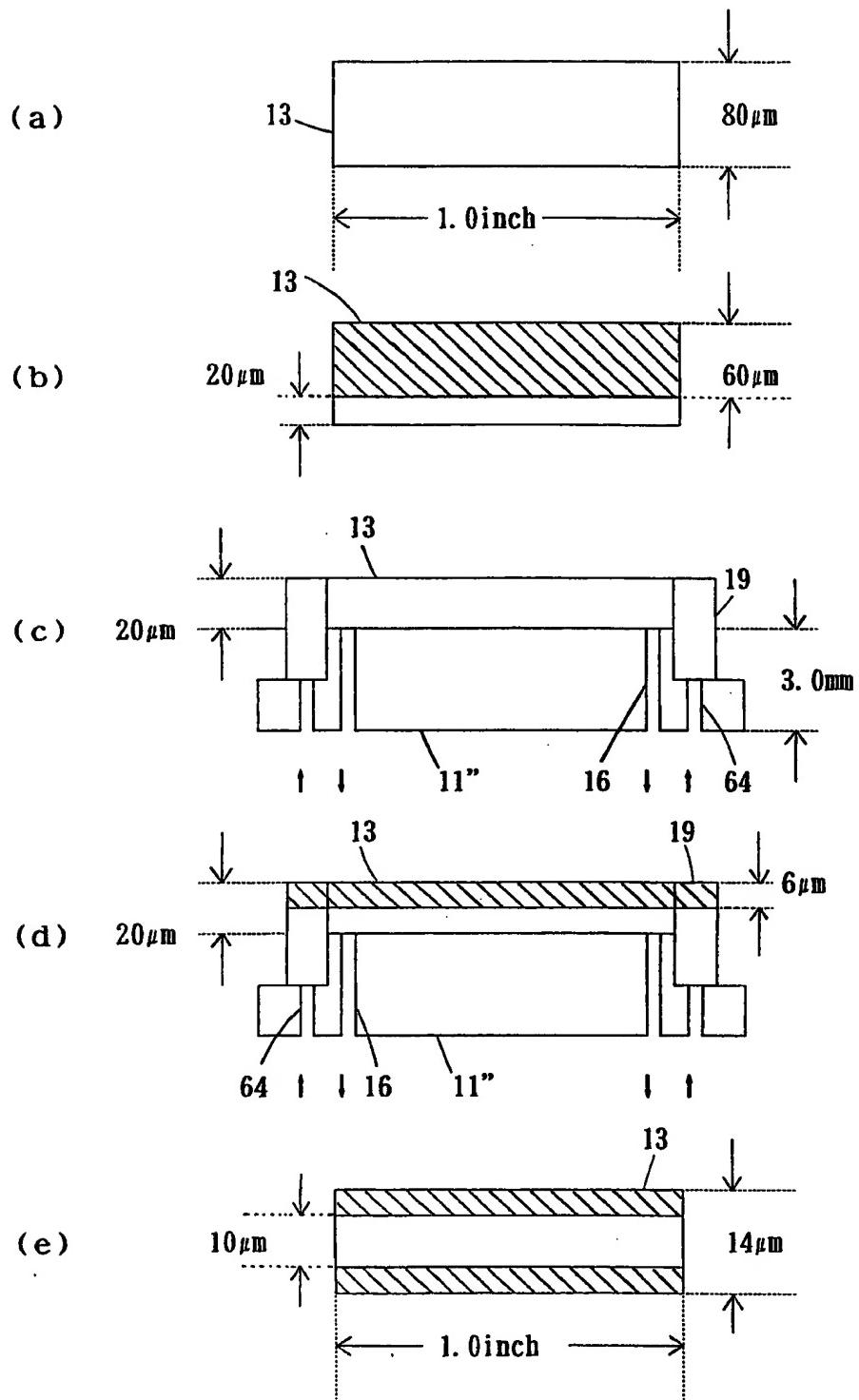


(d)



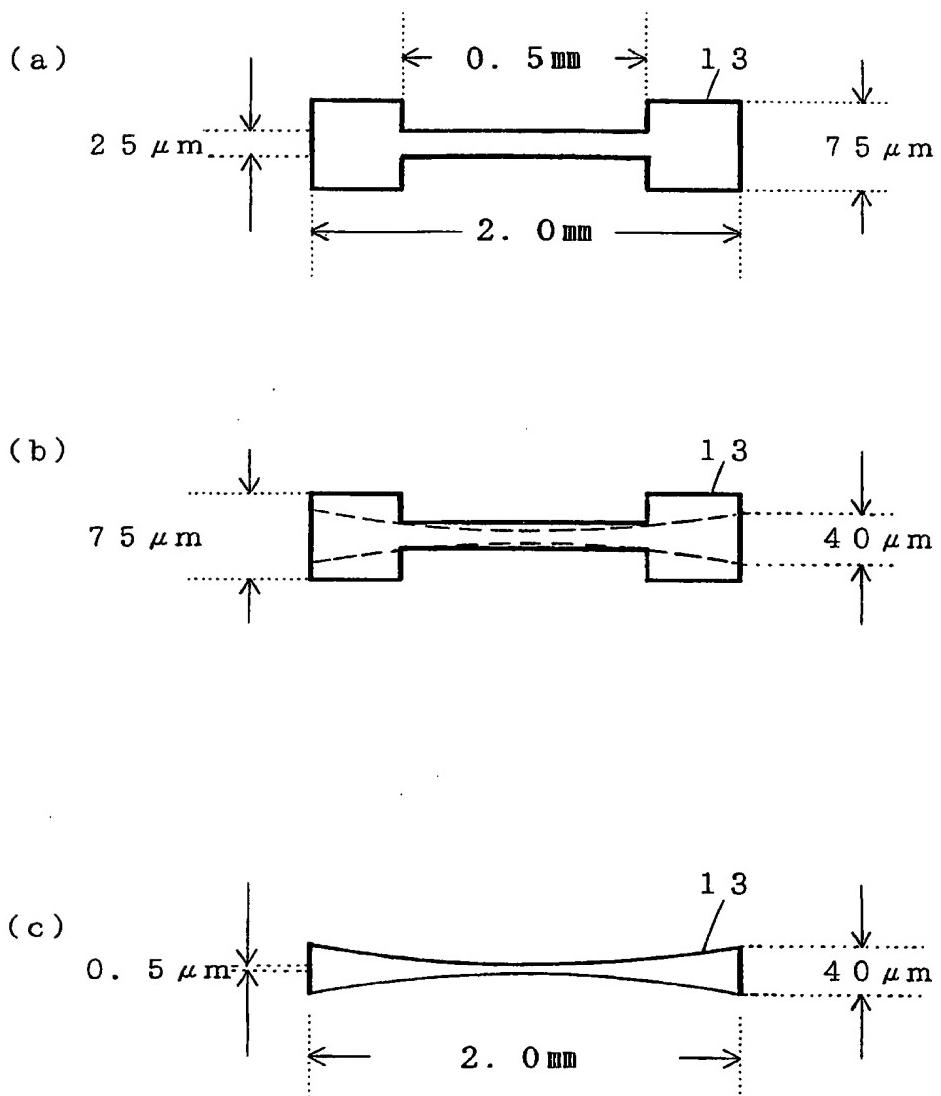
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Fig. 45

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Fig.46



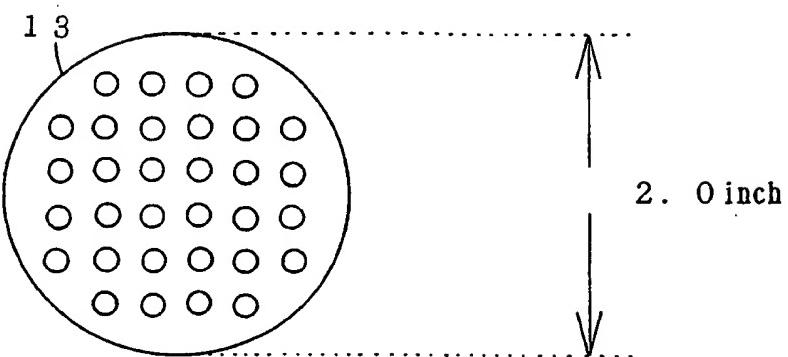
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Fig.47

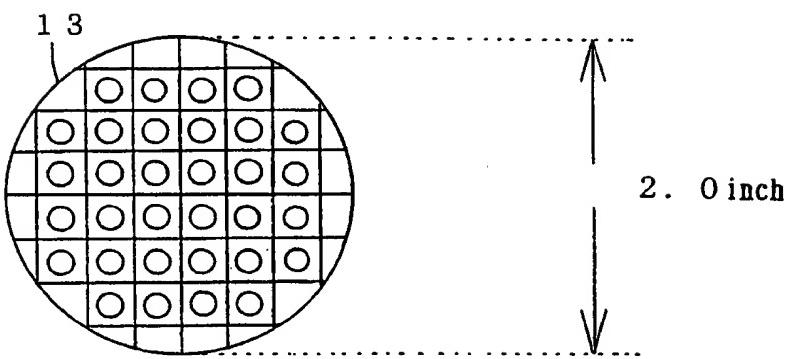


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Fig. 48

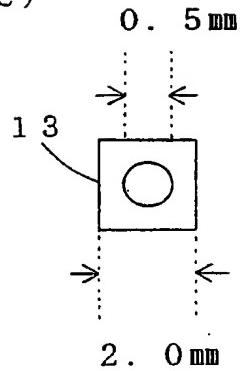
(a)



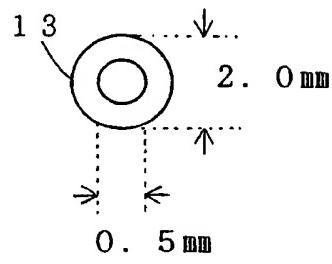
(b)



(c)

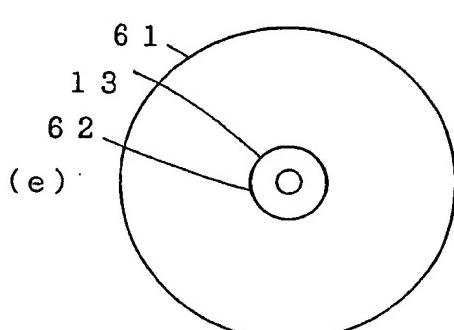
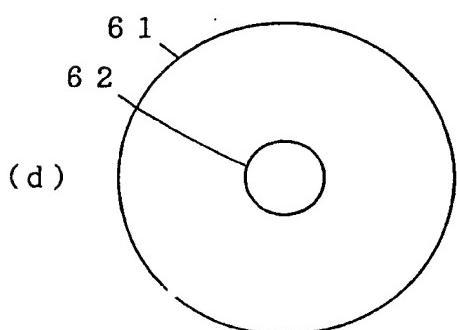
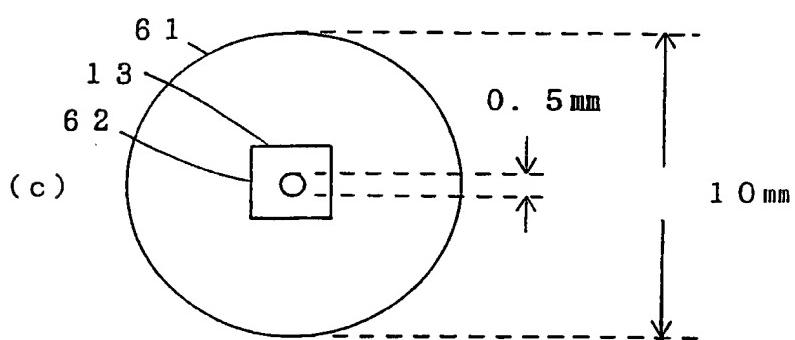
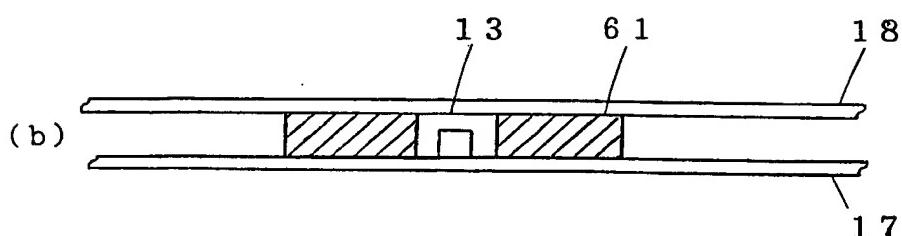
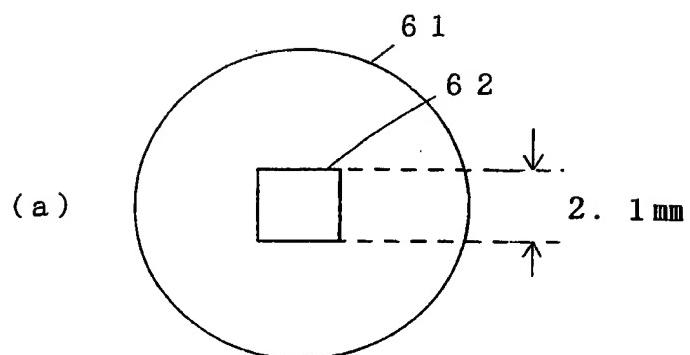


(d)



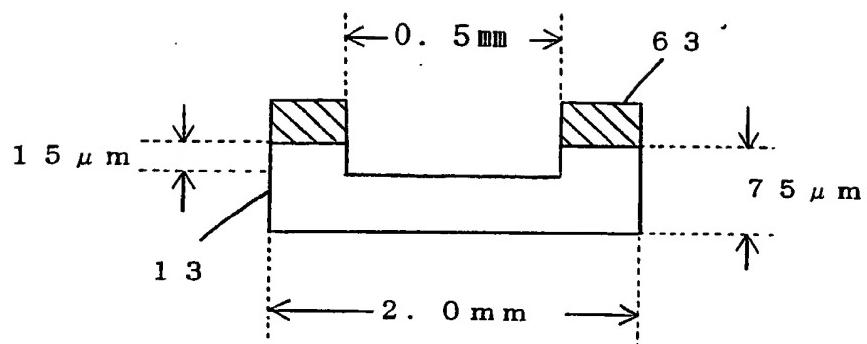
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Fig. 49



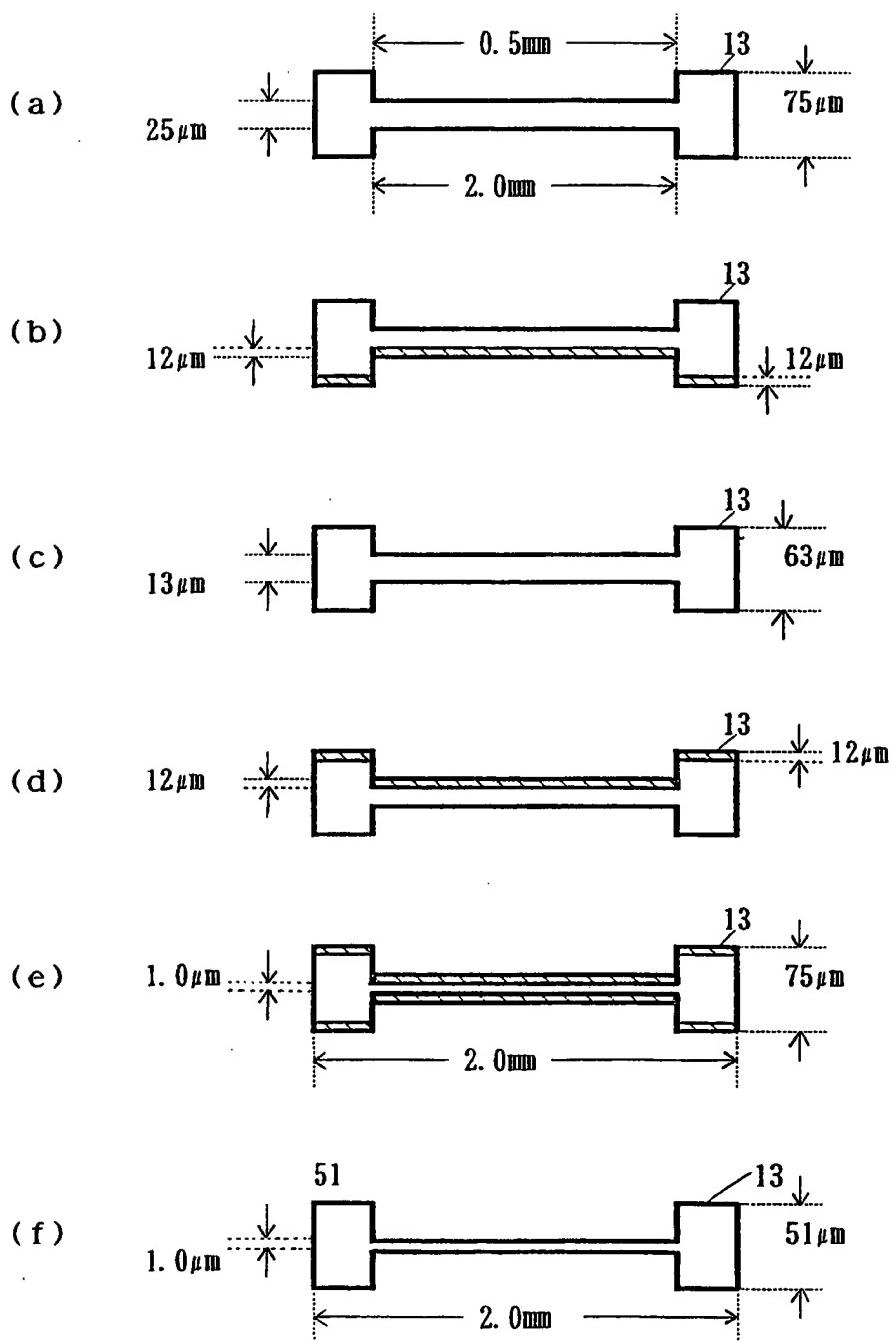
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Fig.50



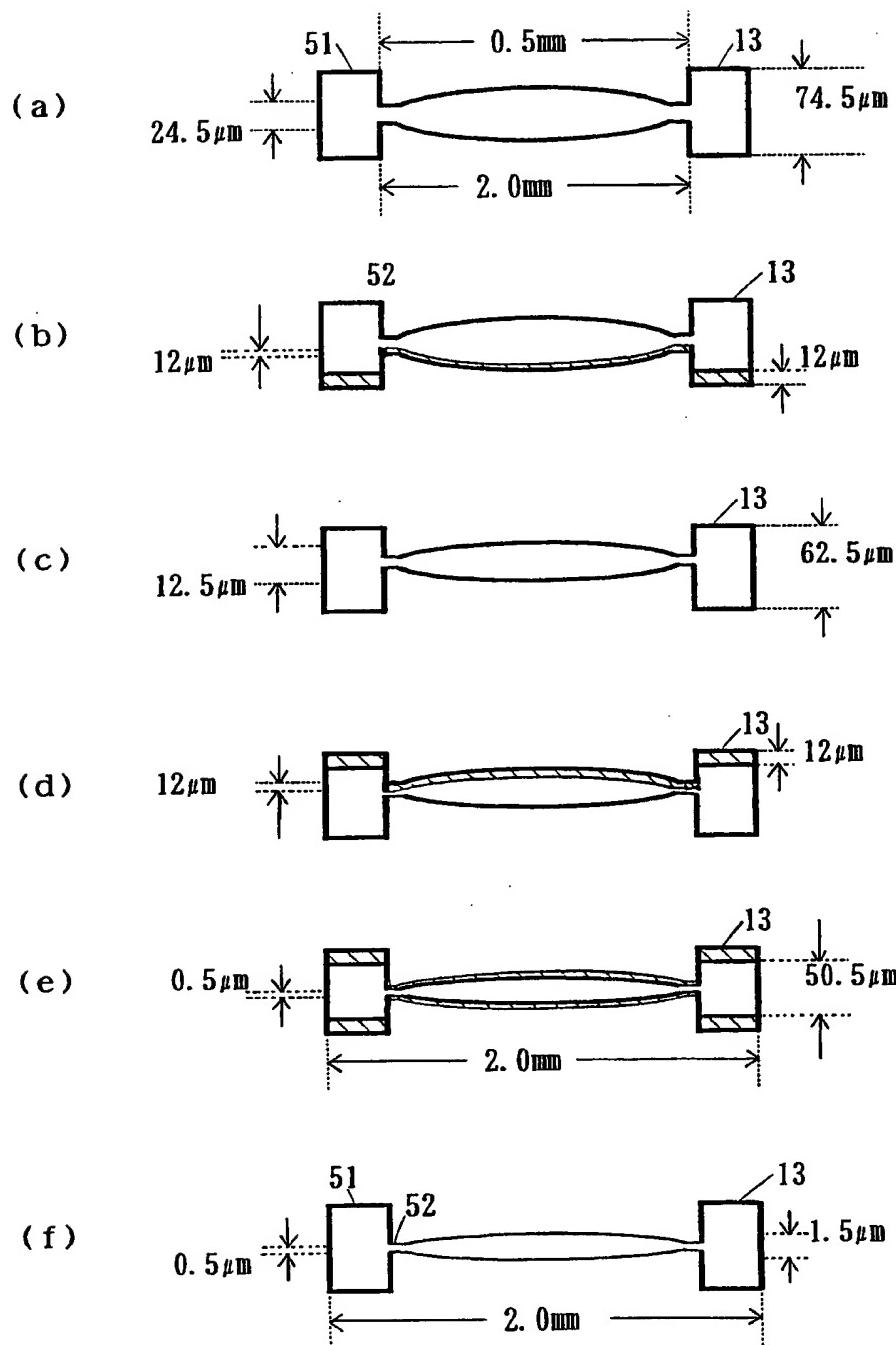
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Fig.51



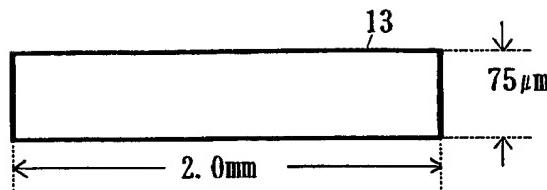
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Fig.52

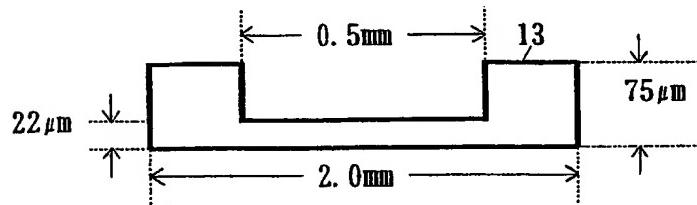


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Fig.53

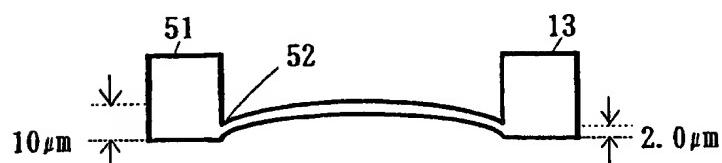
(a)



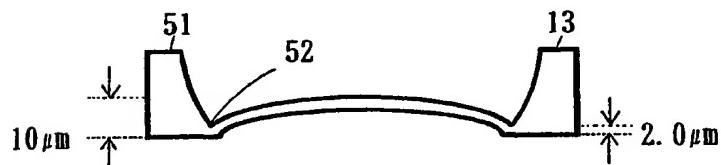
(b)



(c)



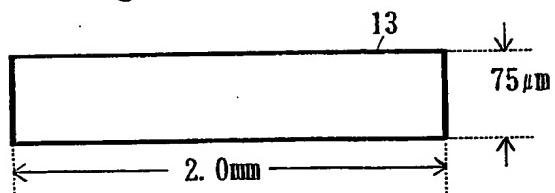
(c')



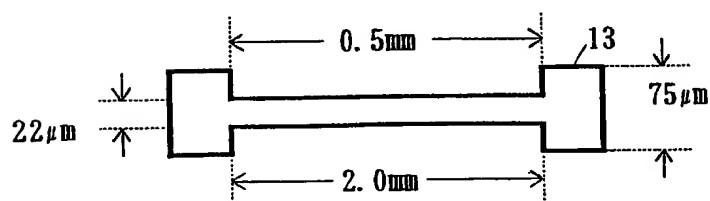
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Fig.54

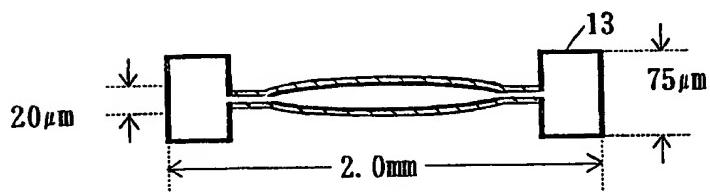
(a)



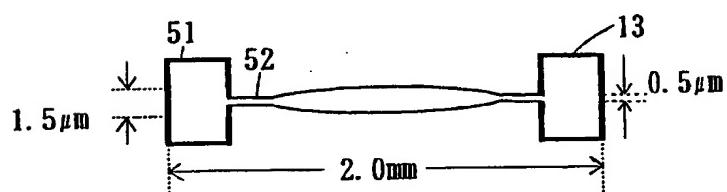
(b)



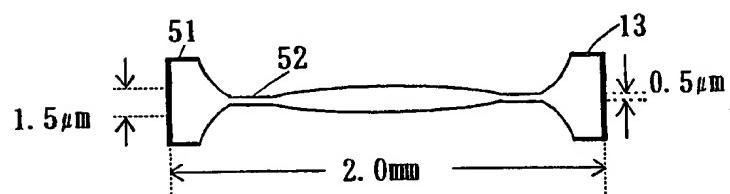
(c)



(d)

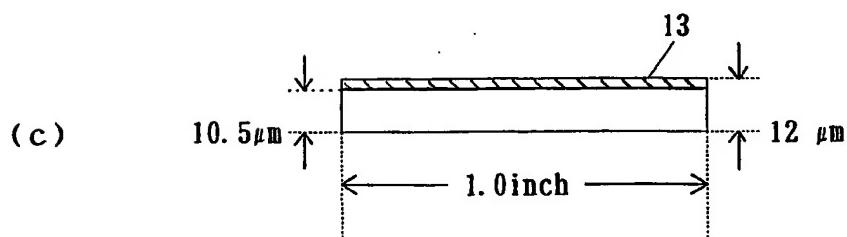
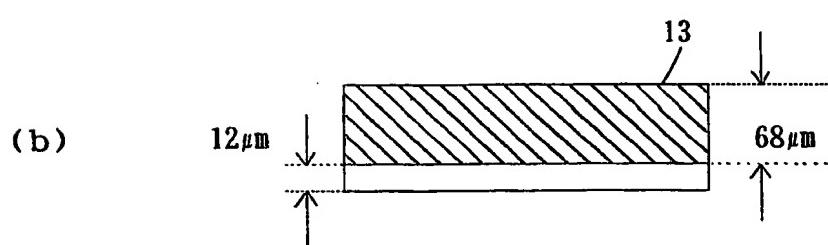
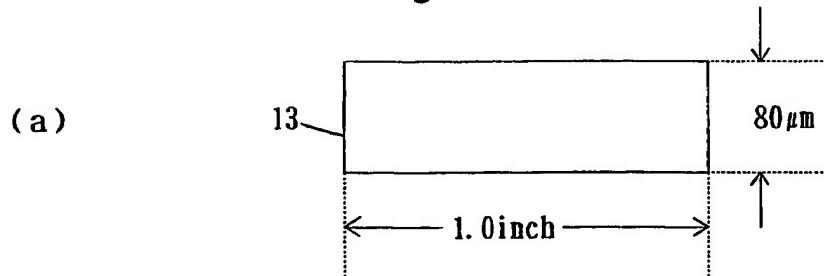


(d')



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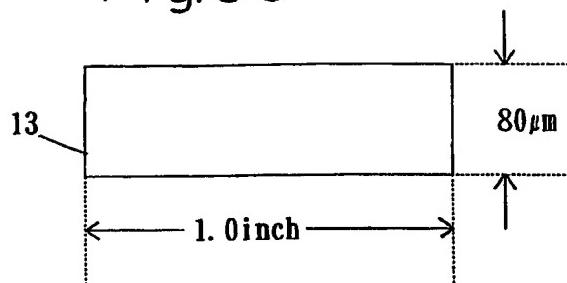
Fig. 55



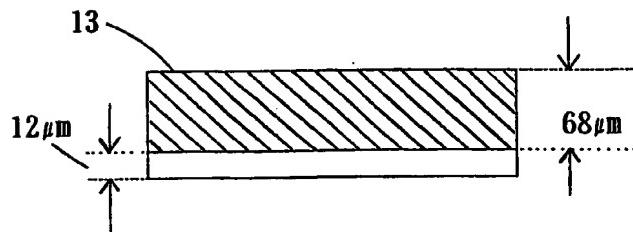
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Fig.56

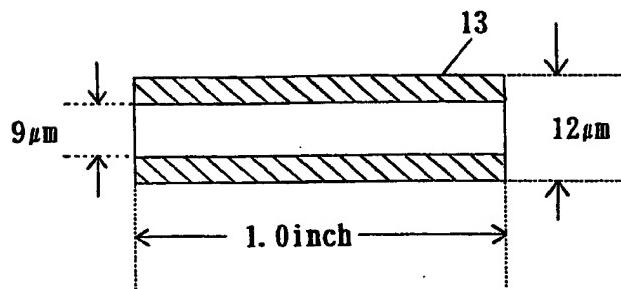
(a)



(b)



(c)



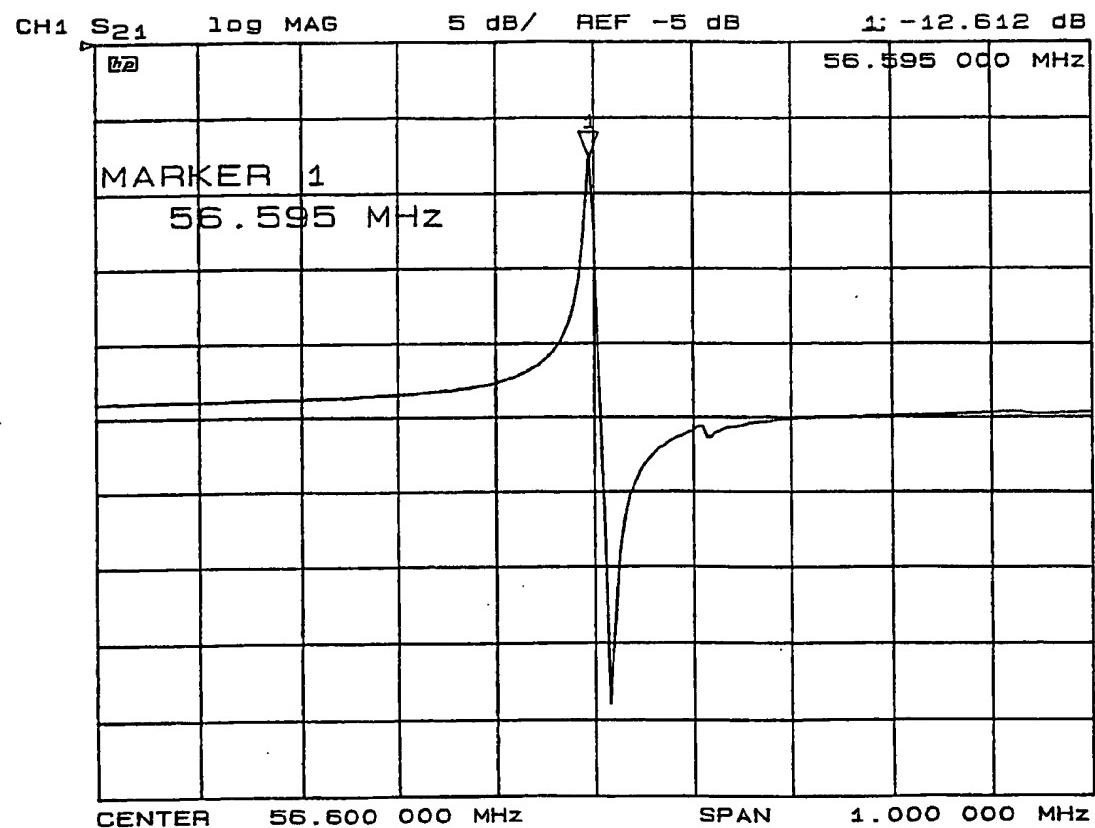
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Fig.57



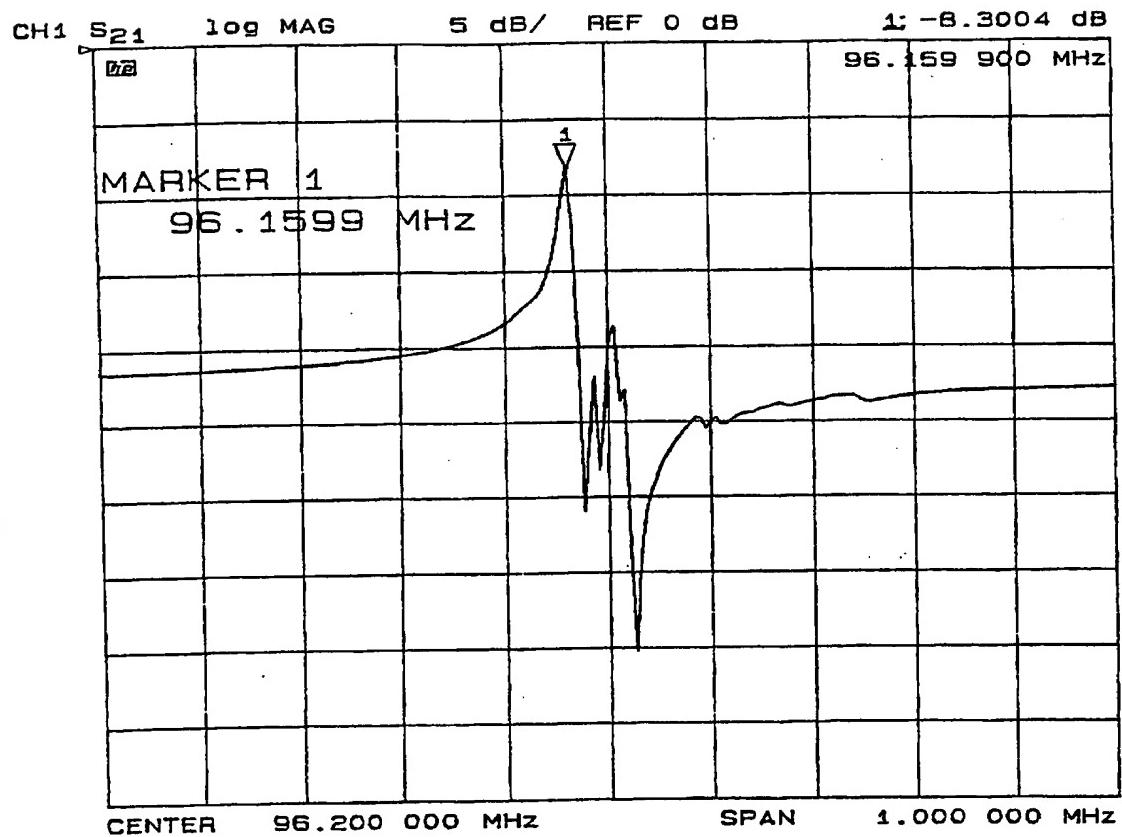
09/914975

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Fig.58



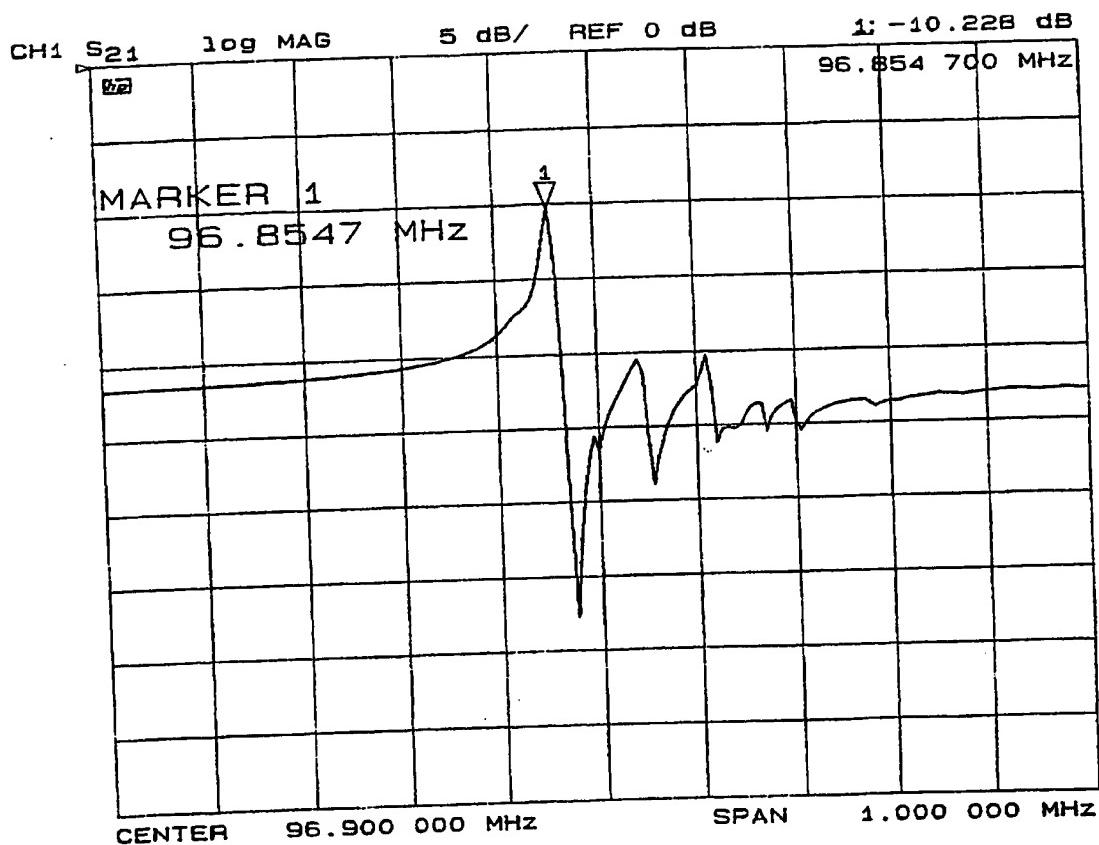
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Fig.59



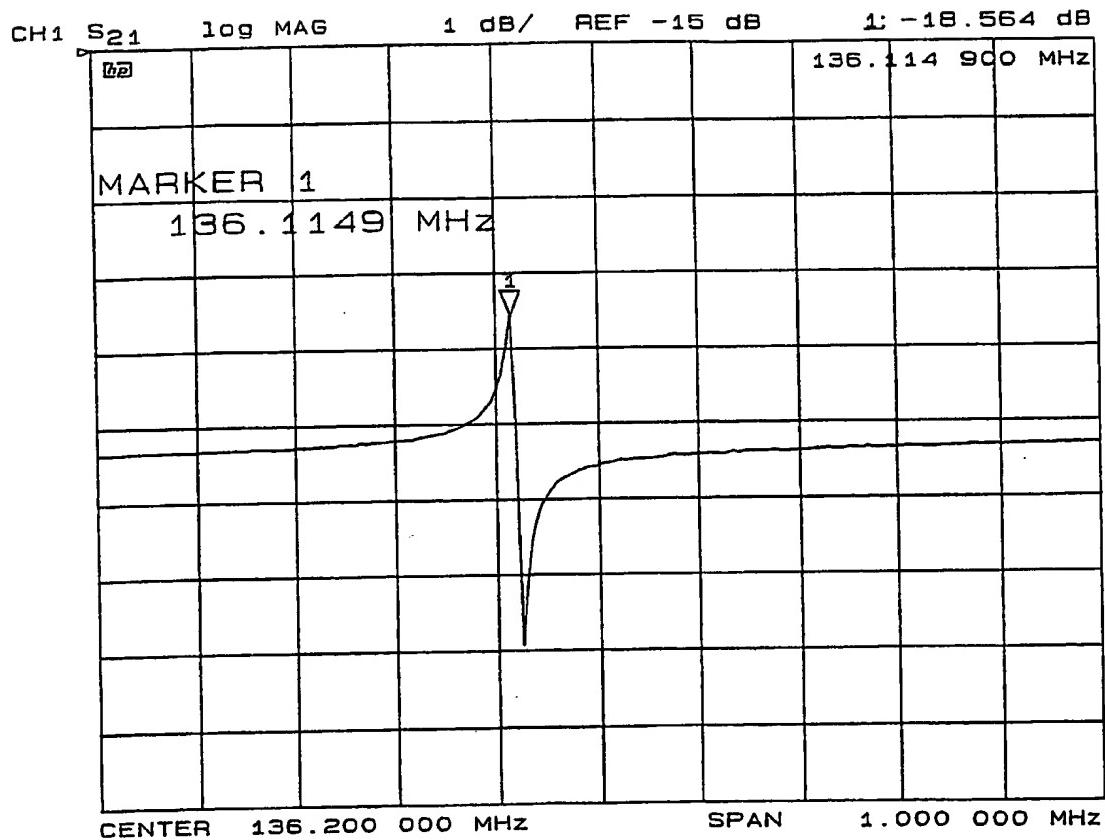
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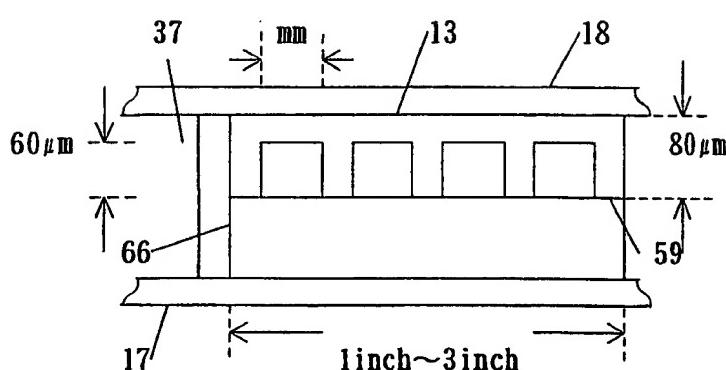
41/82

Fig.60

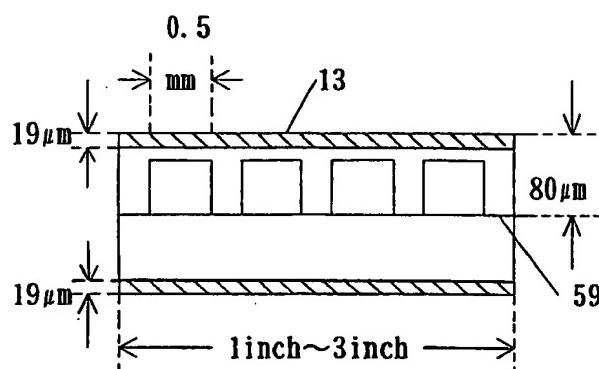


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Fig. 61
0.5

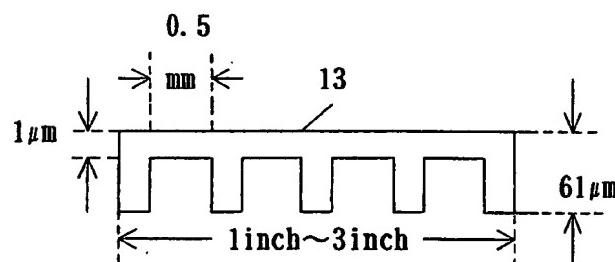
(a)



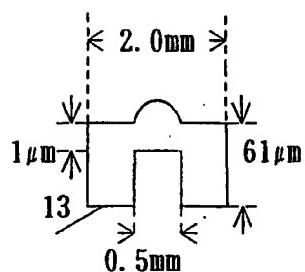
(b)



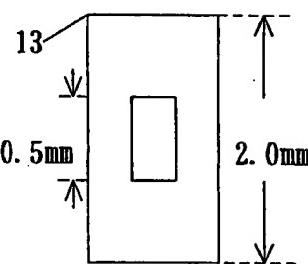
(c)



(d)

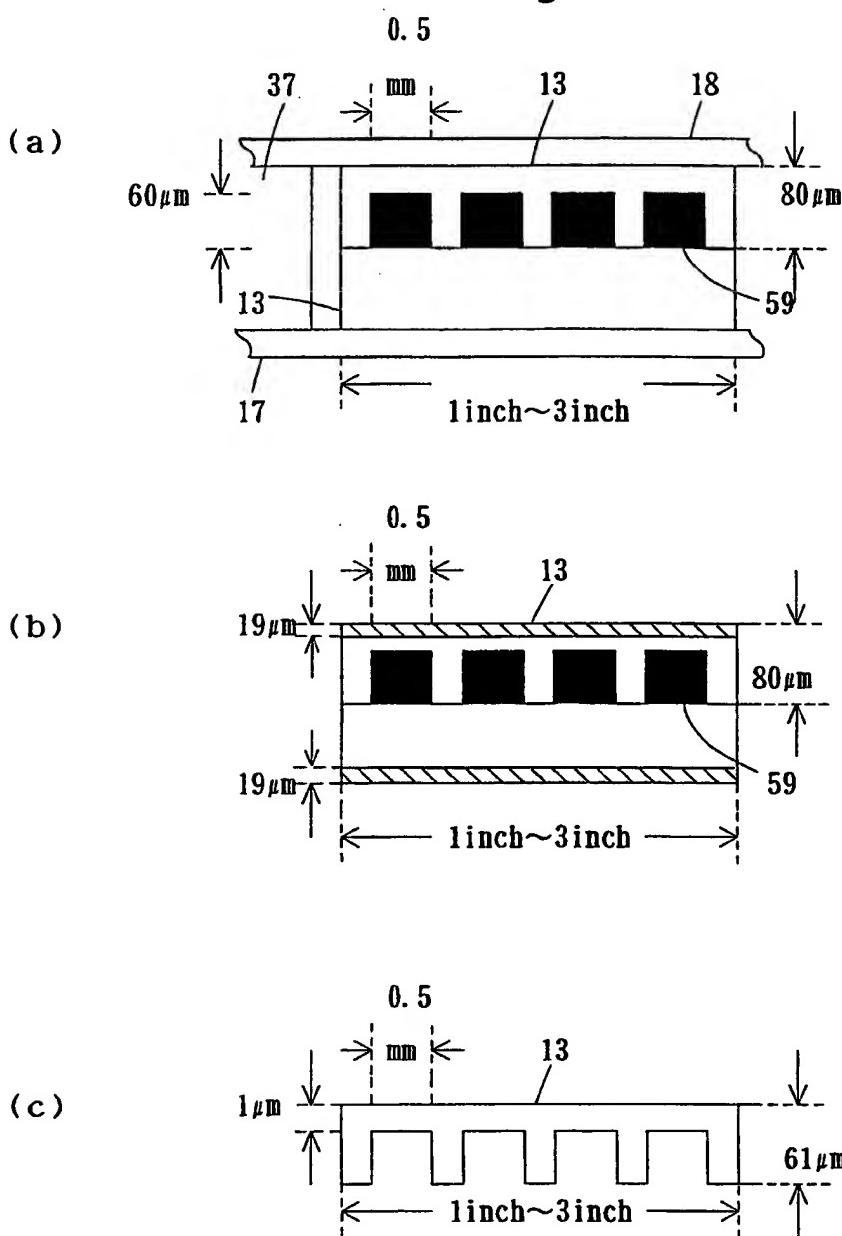


(e)



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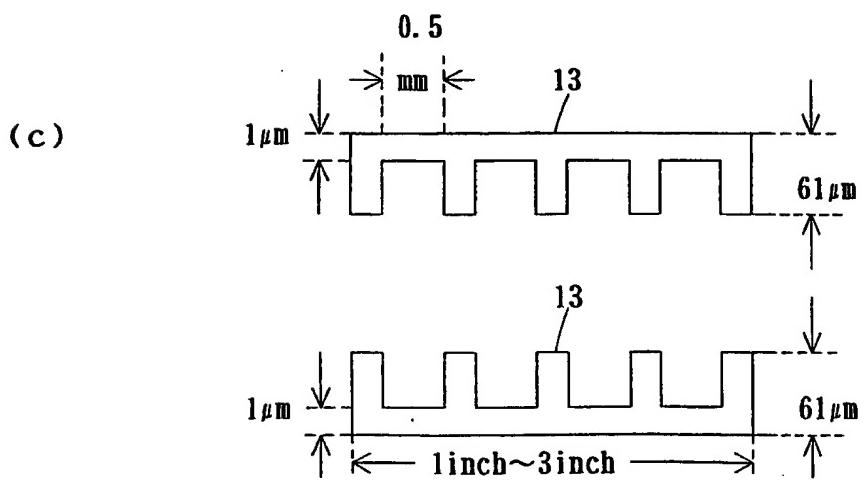
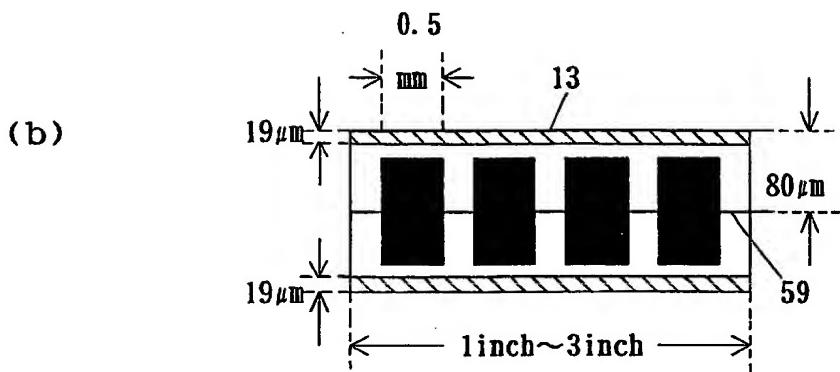
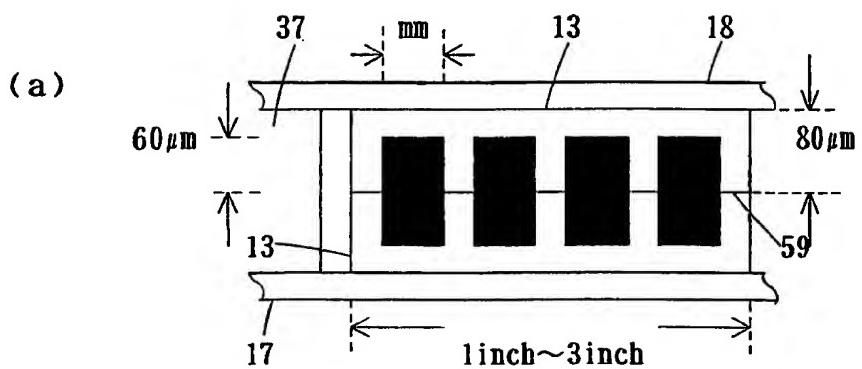
Fig. 62



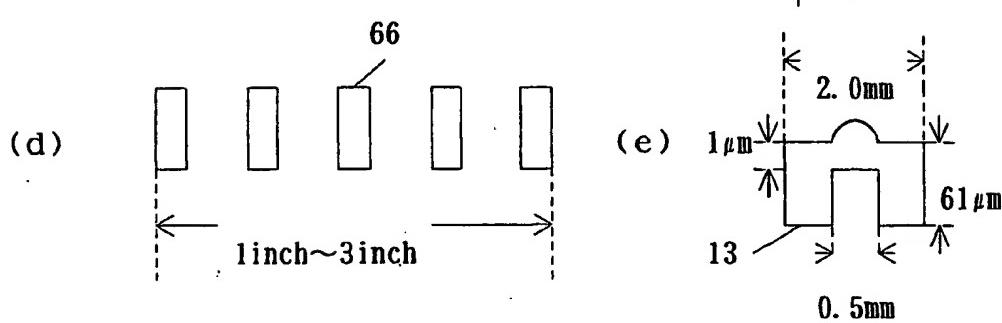
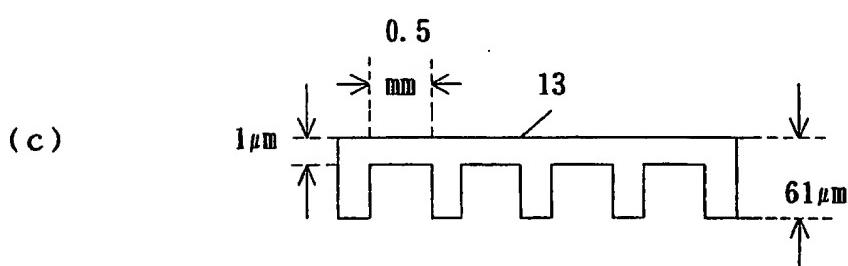
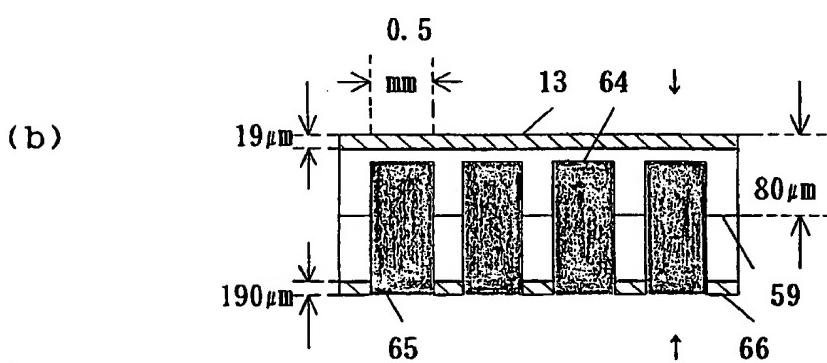
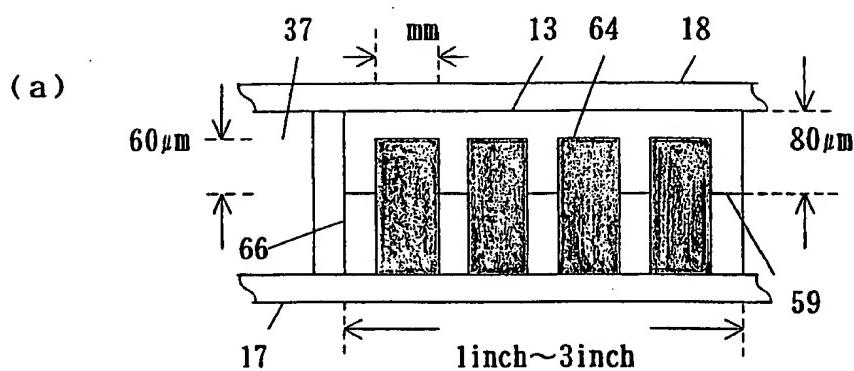
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Fig.63

0.5

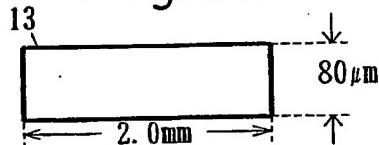


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Fig. 64
0.5

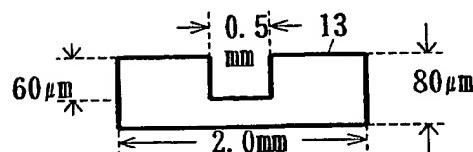


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Fig.65

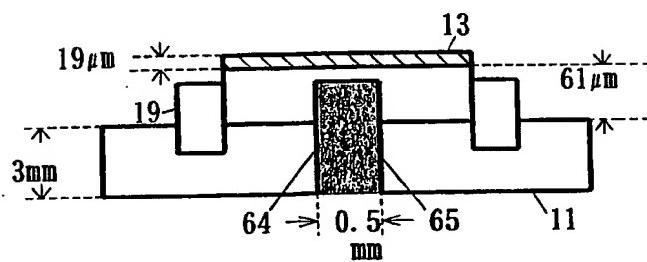
(a)



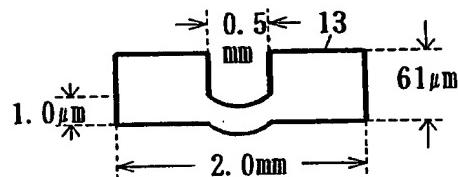
(b)



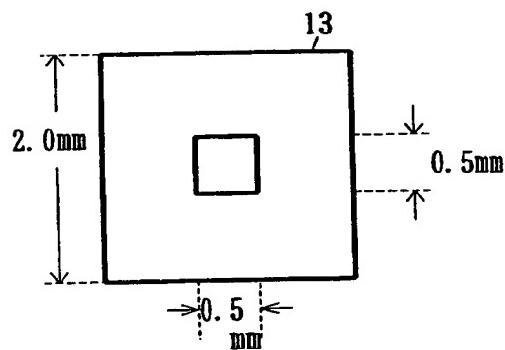
(c)



(d)

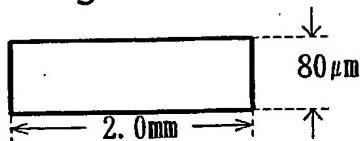


(e)

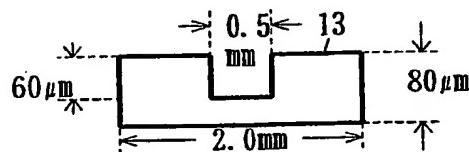


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Fig. 66

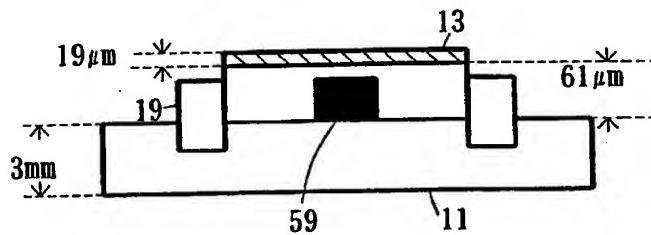
(a)



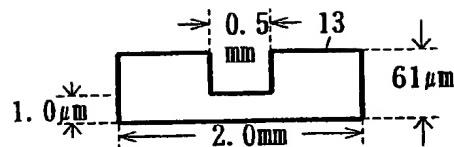
(b)



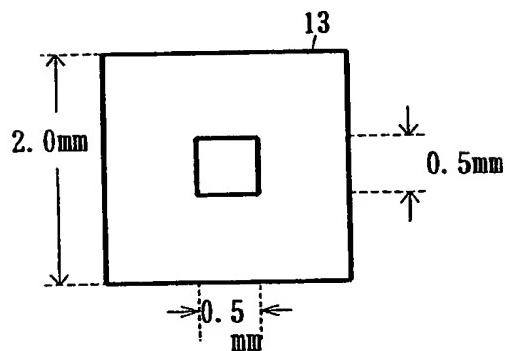
(c)



(d)

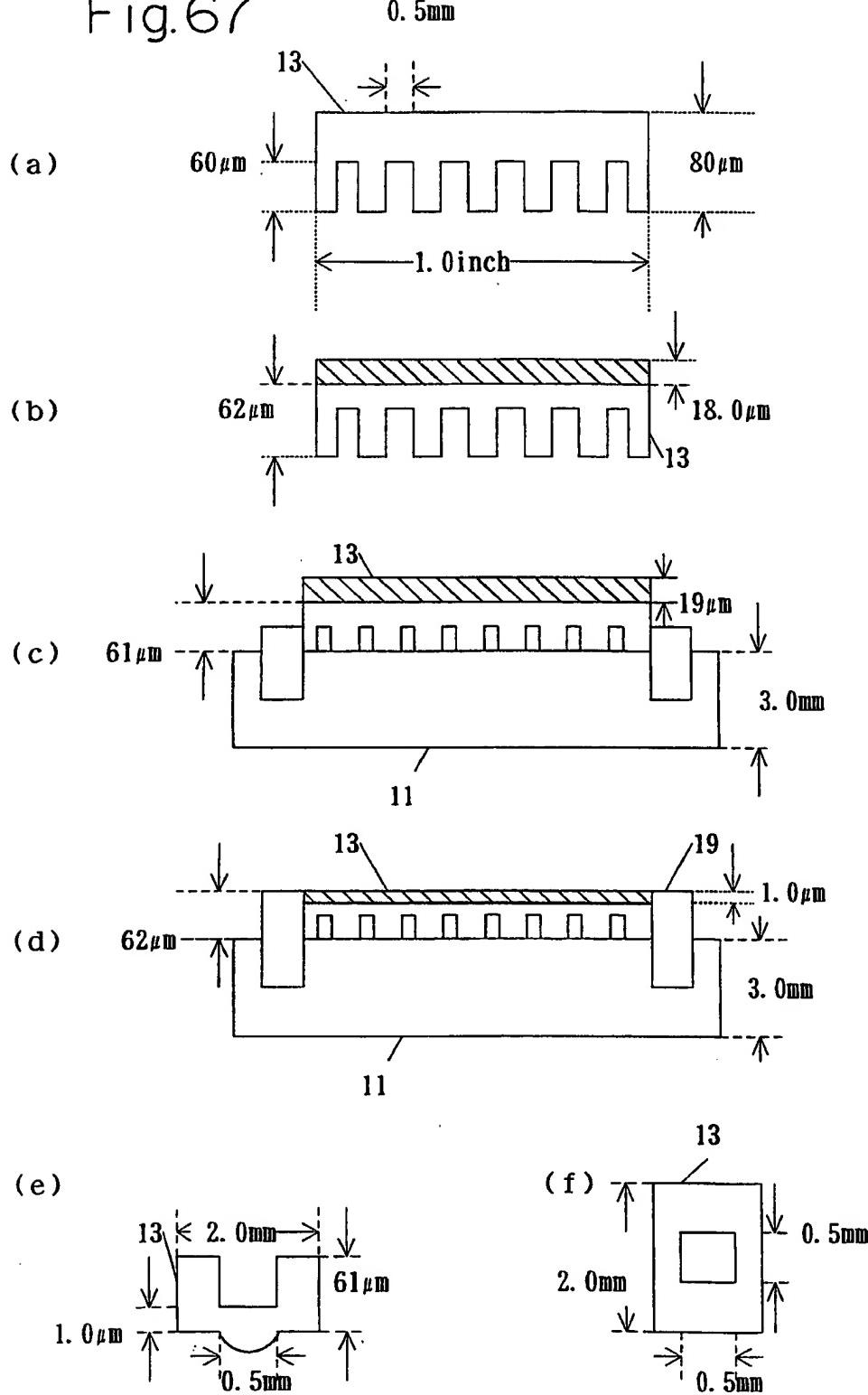


(e)



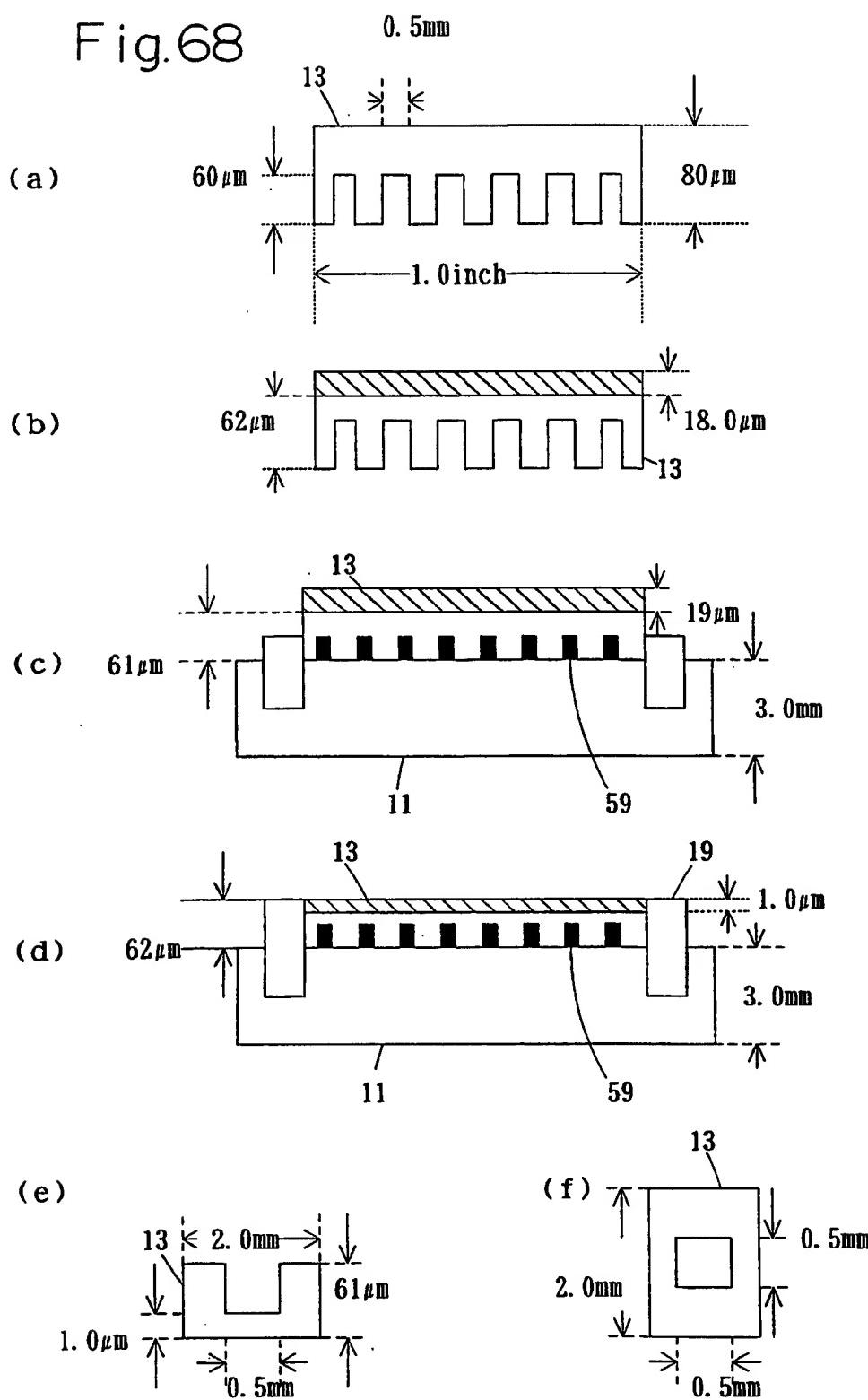
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Fig. 67



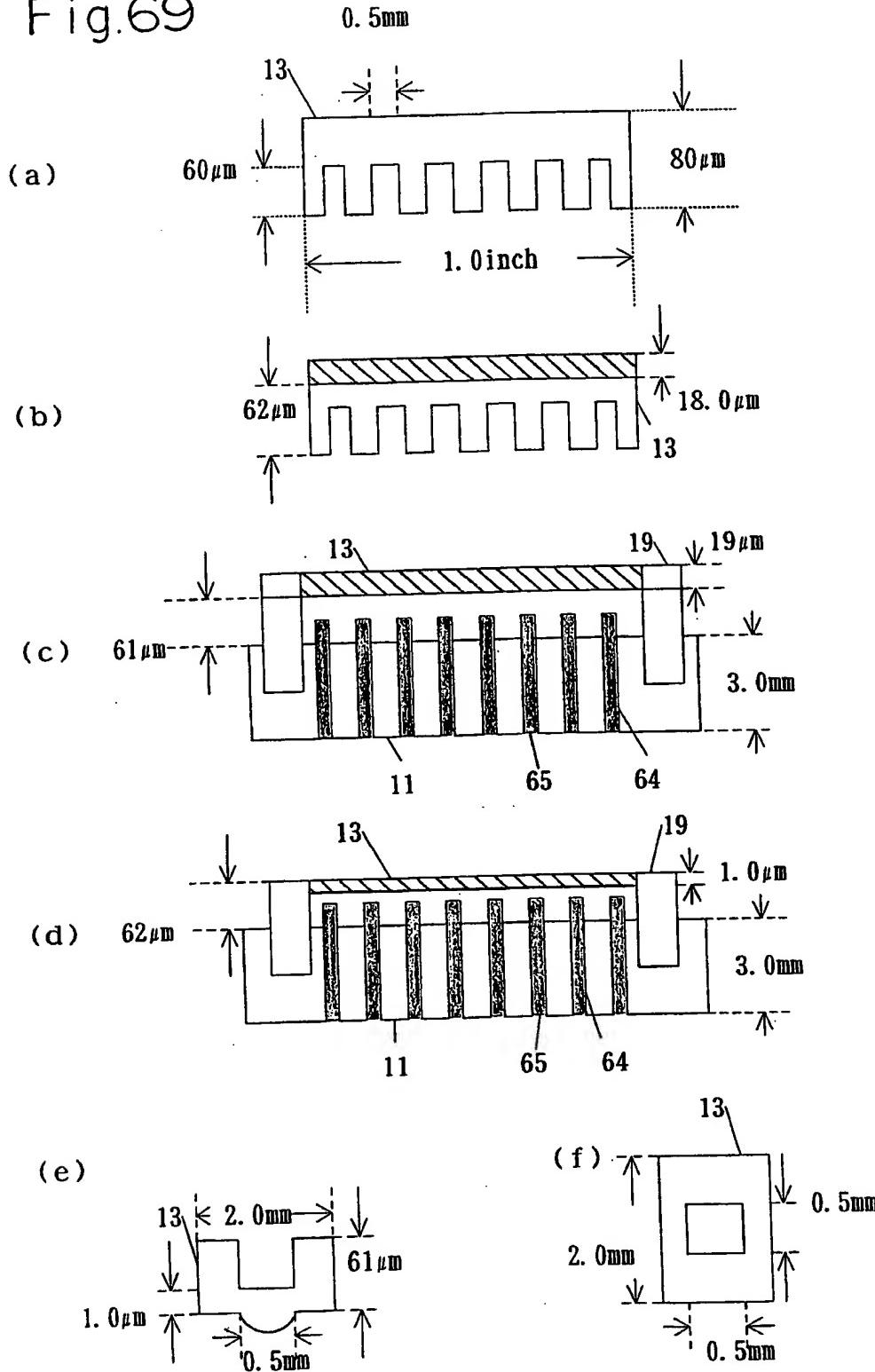
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Fig. 68



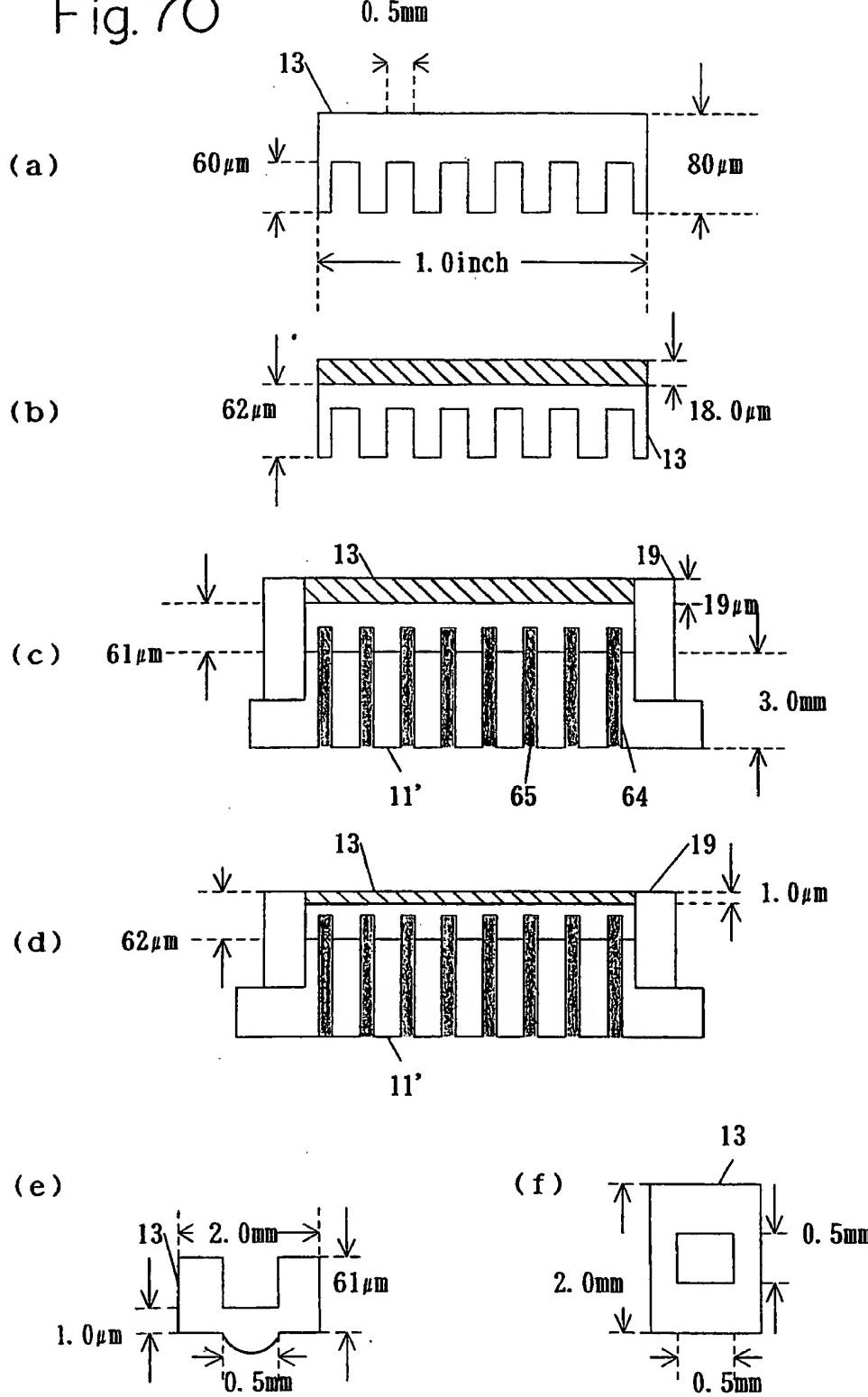
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Fig.69



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Fig. 70



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Fig. 71

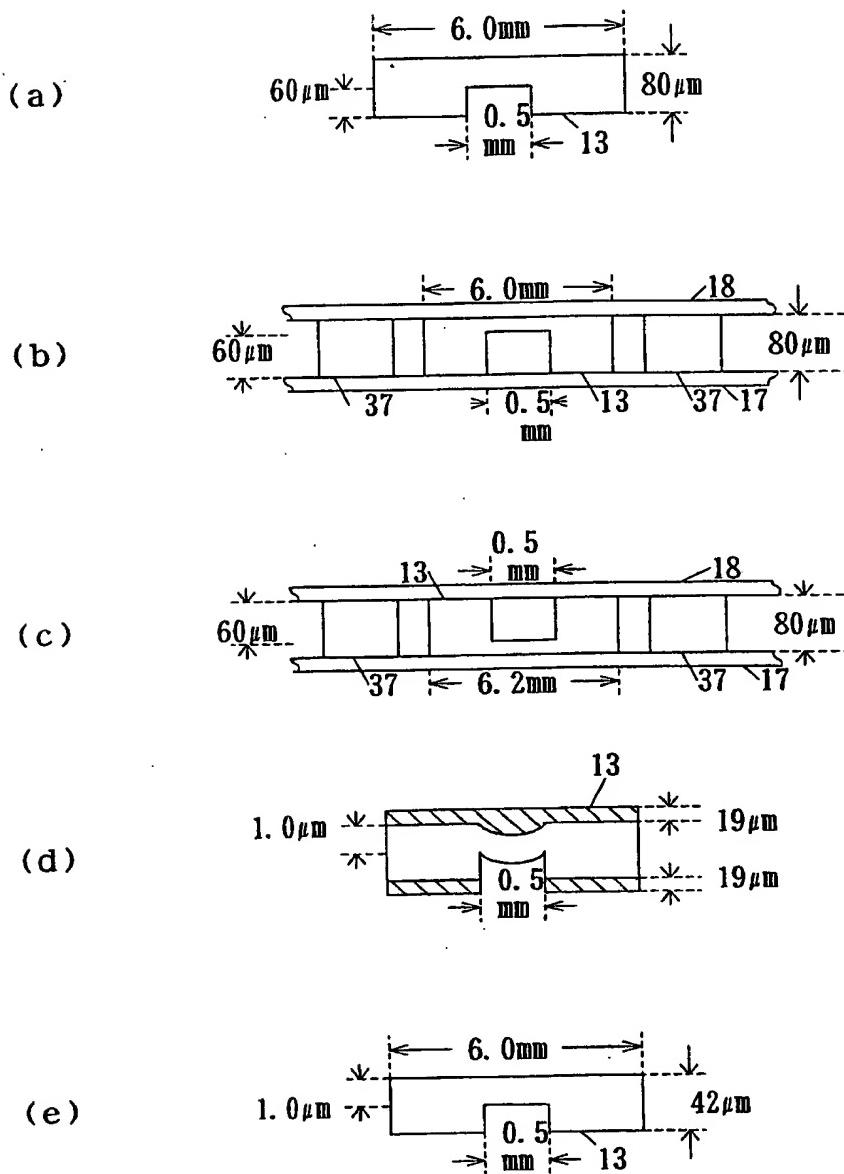
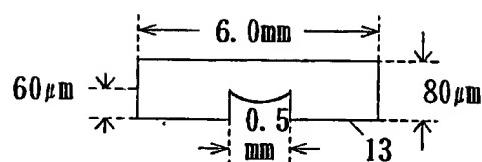


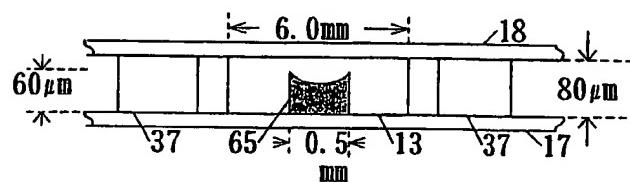
Fig.72

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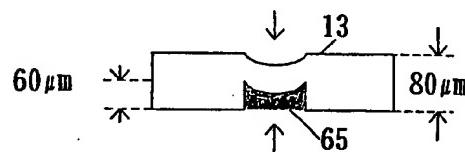
(a)



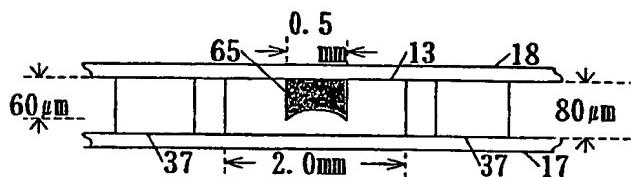
(b)



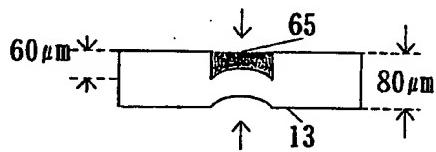
(c)



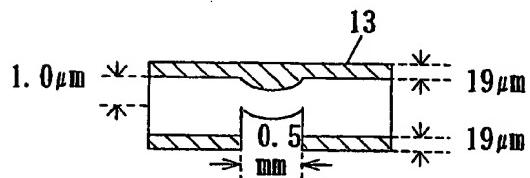
(d)



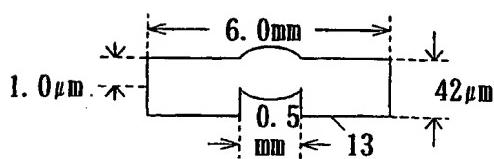
(e)



(f)

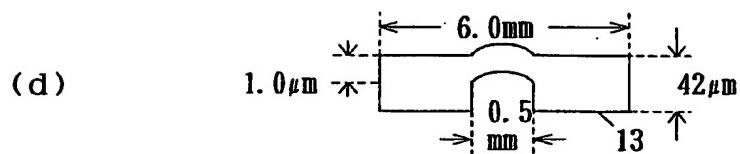
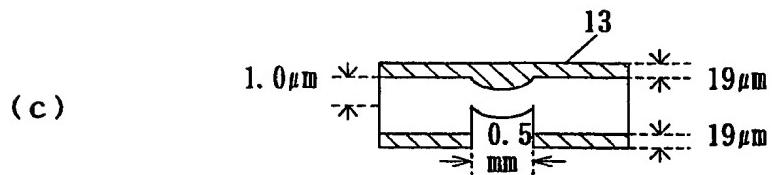
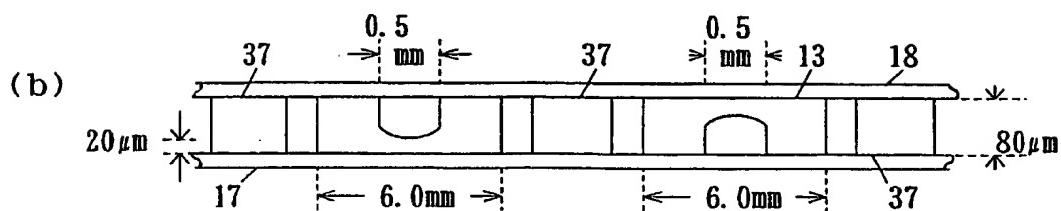
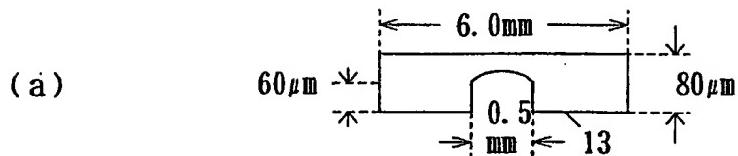


(g)

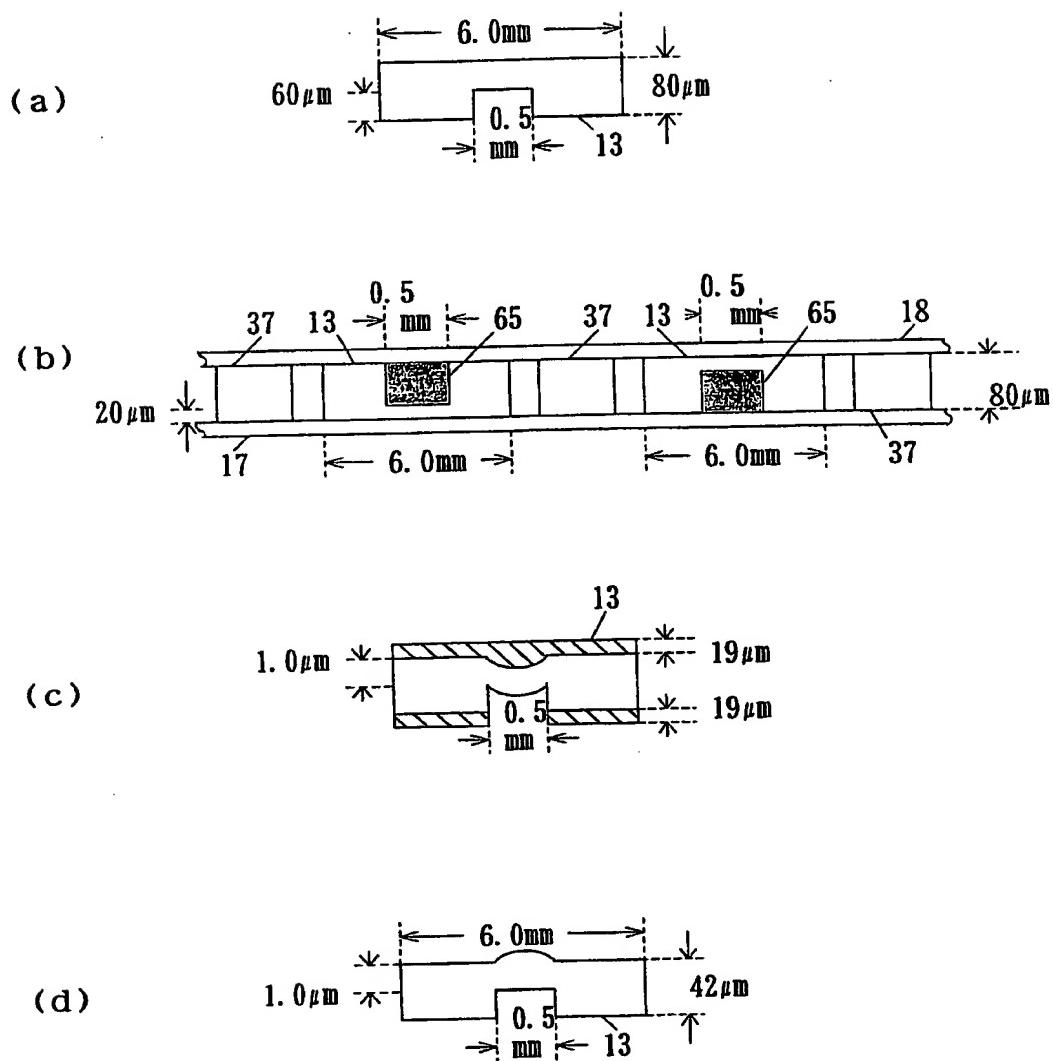


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Fig. 73



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Fig. 74



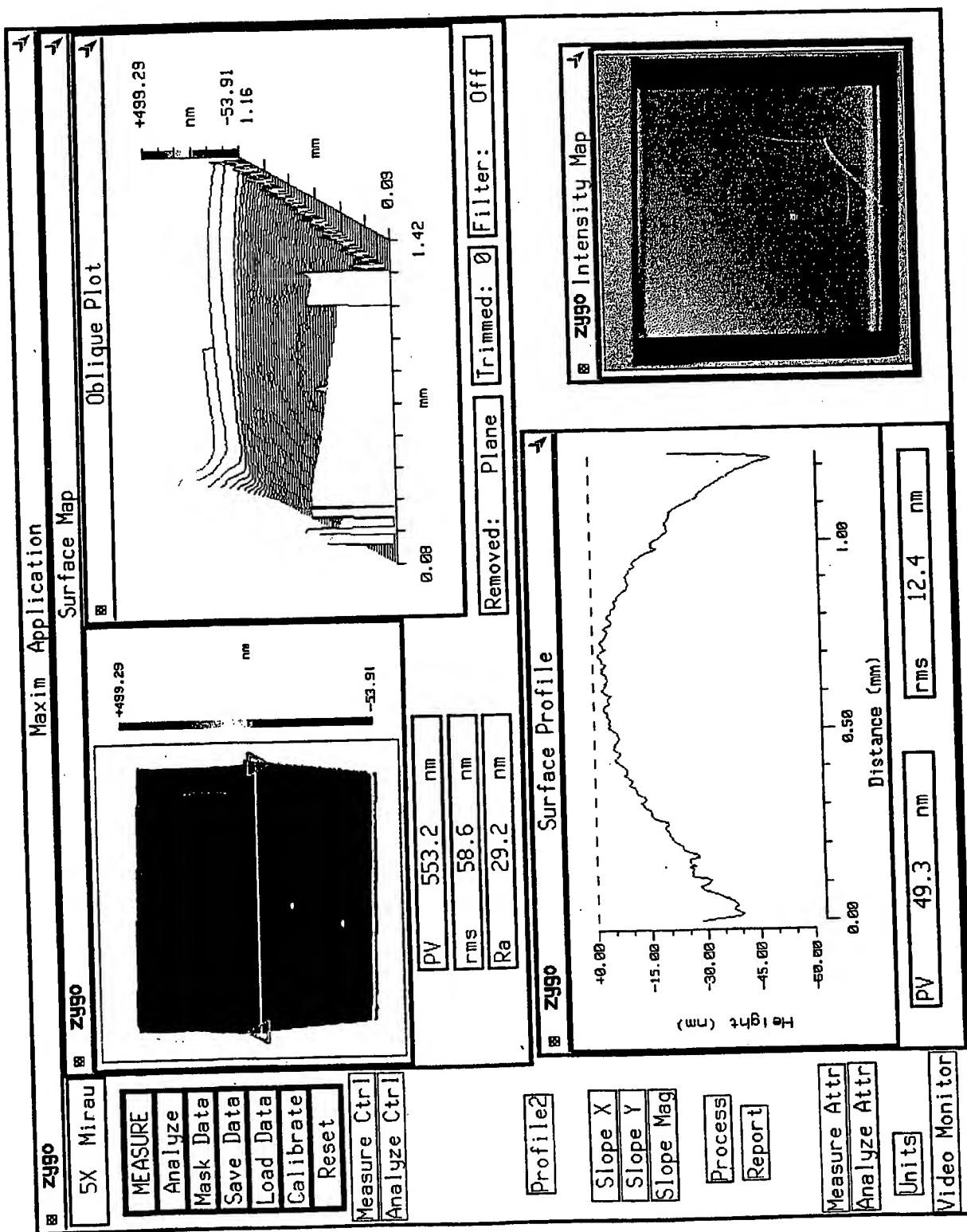
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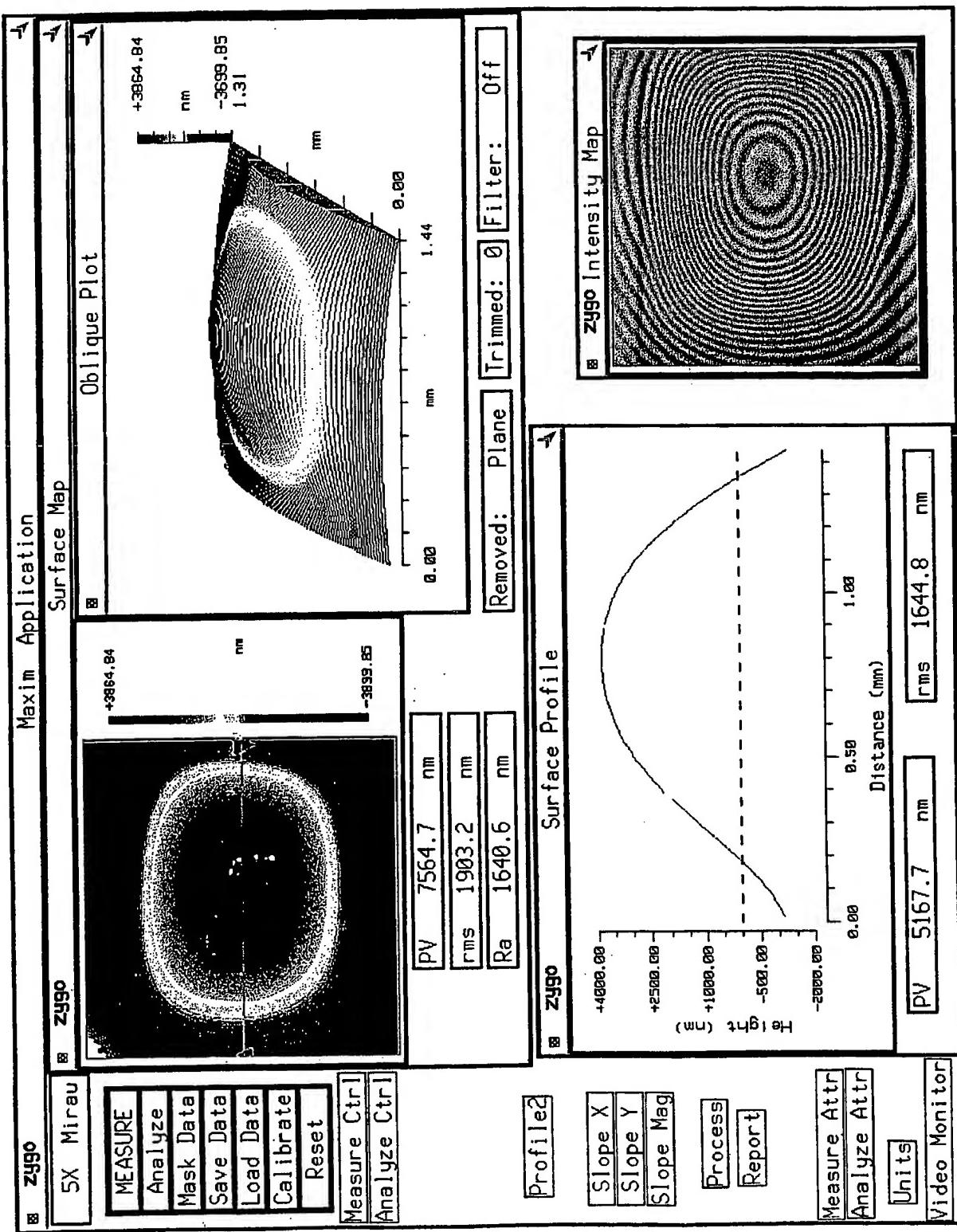
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Fig. 75



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Fig. 76



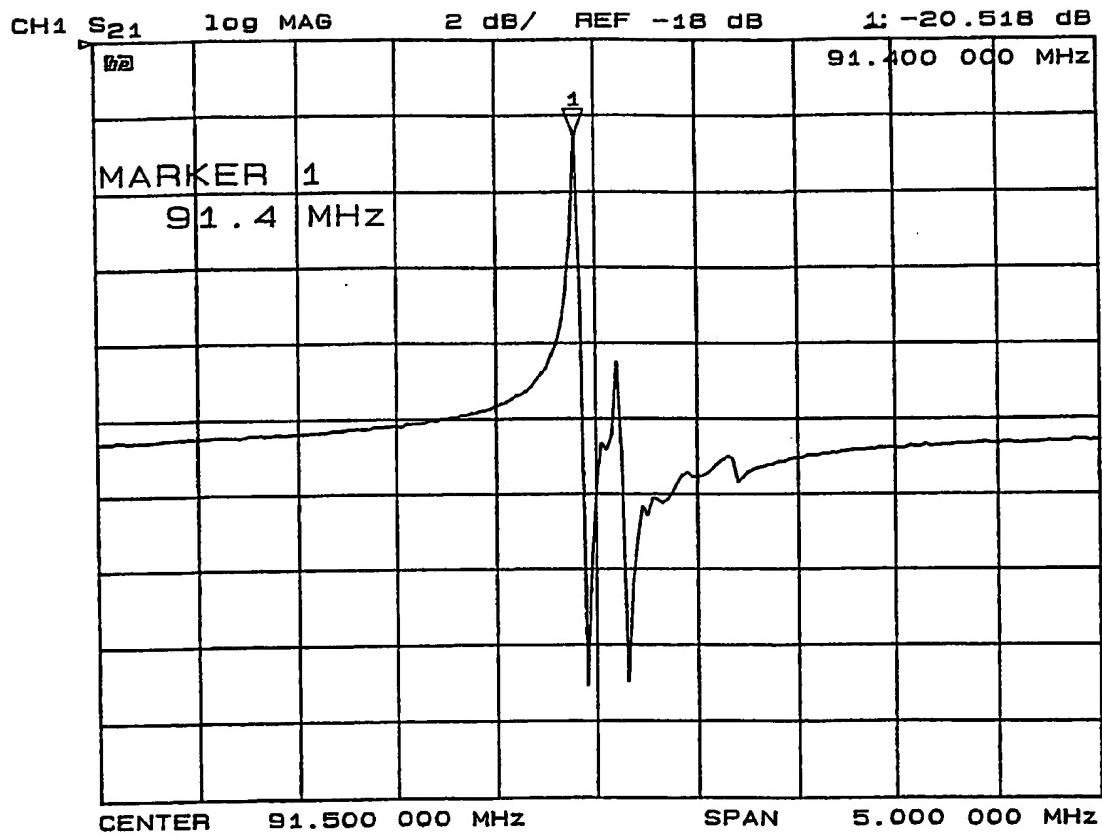
09/914975

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Fig. 77



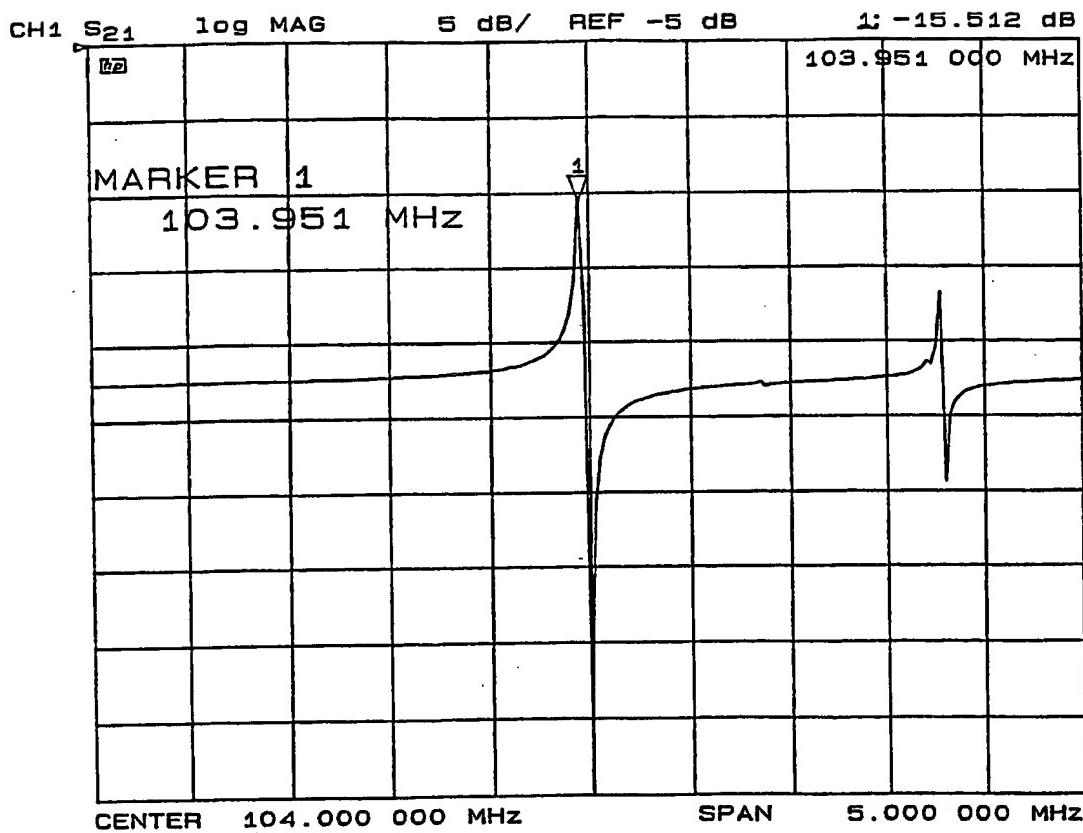
09/914975

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Fig. 78

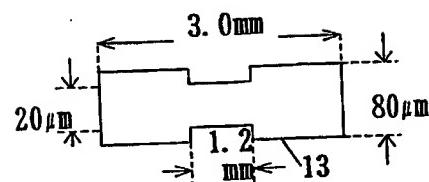


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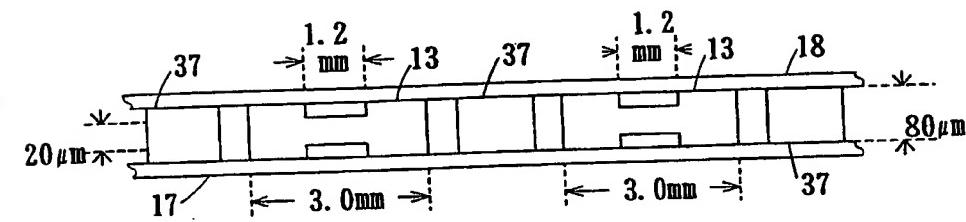
60/82

Fig. 79

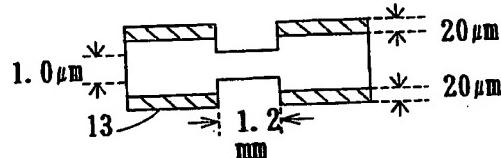
(a)



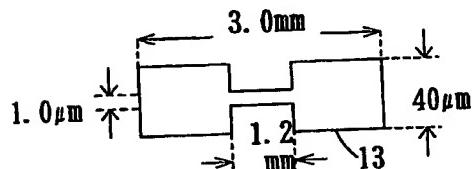
(b)



(c)



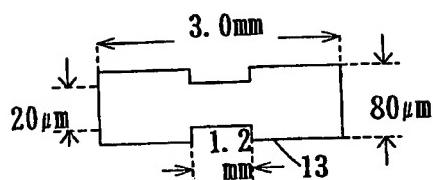
(d)



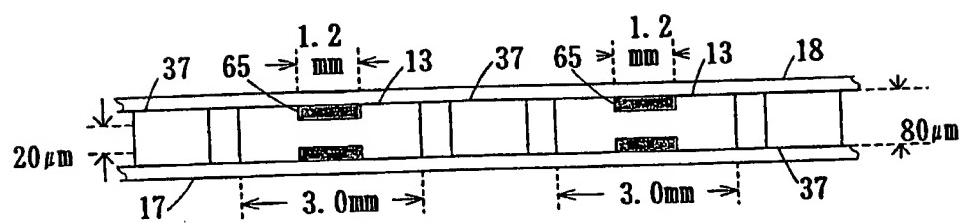
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Fig. 80

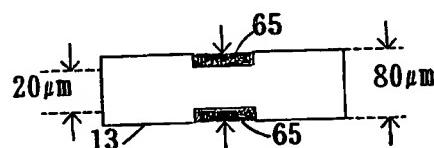
(a)



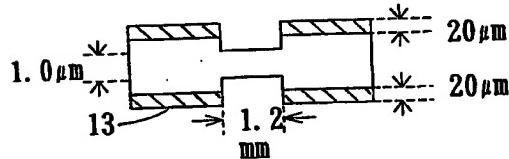
(b)



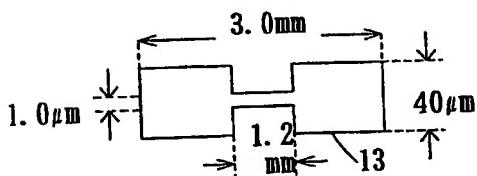
(c)



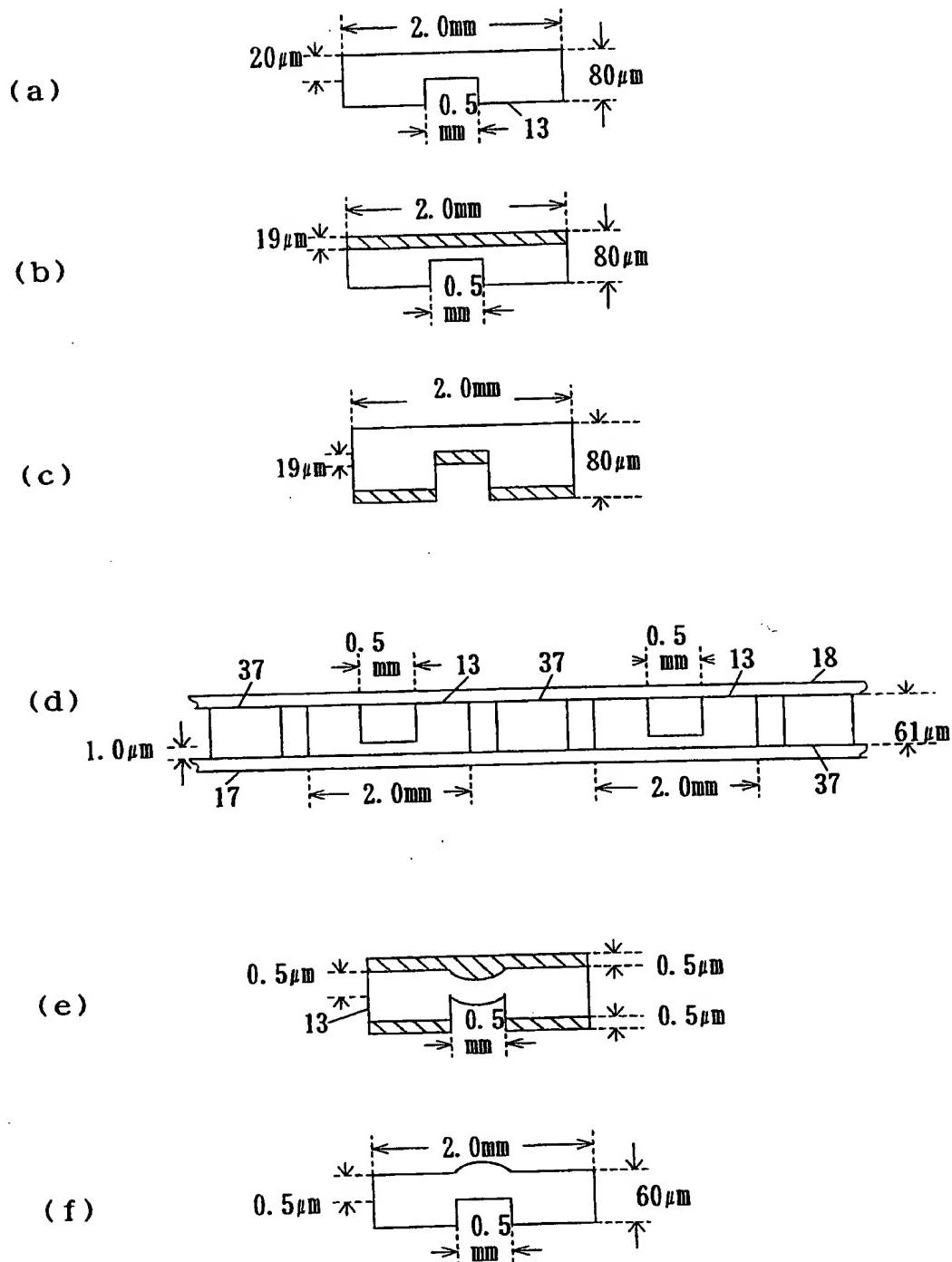
(d)



(e)



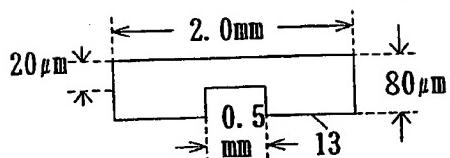
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Fig. 81



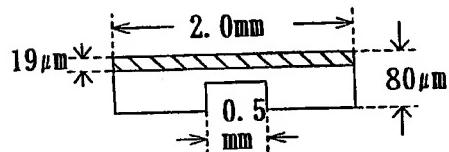
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Fig. 82

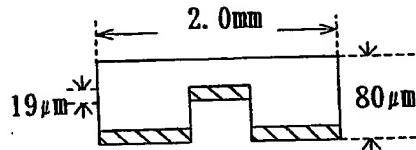
(a)



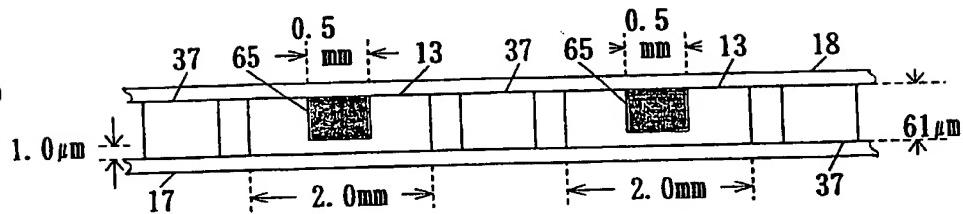
(b)



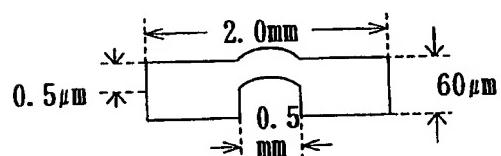
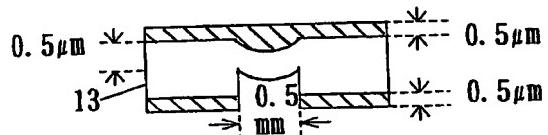
(c)



(d)

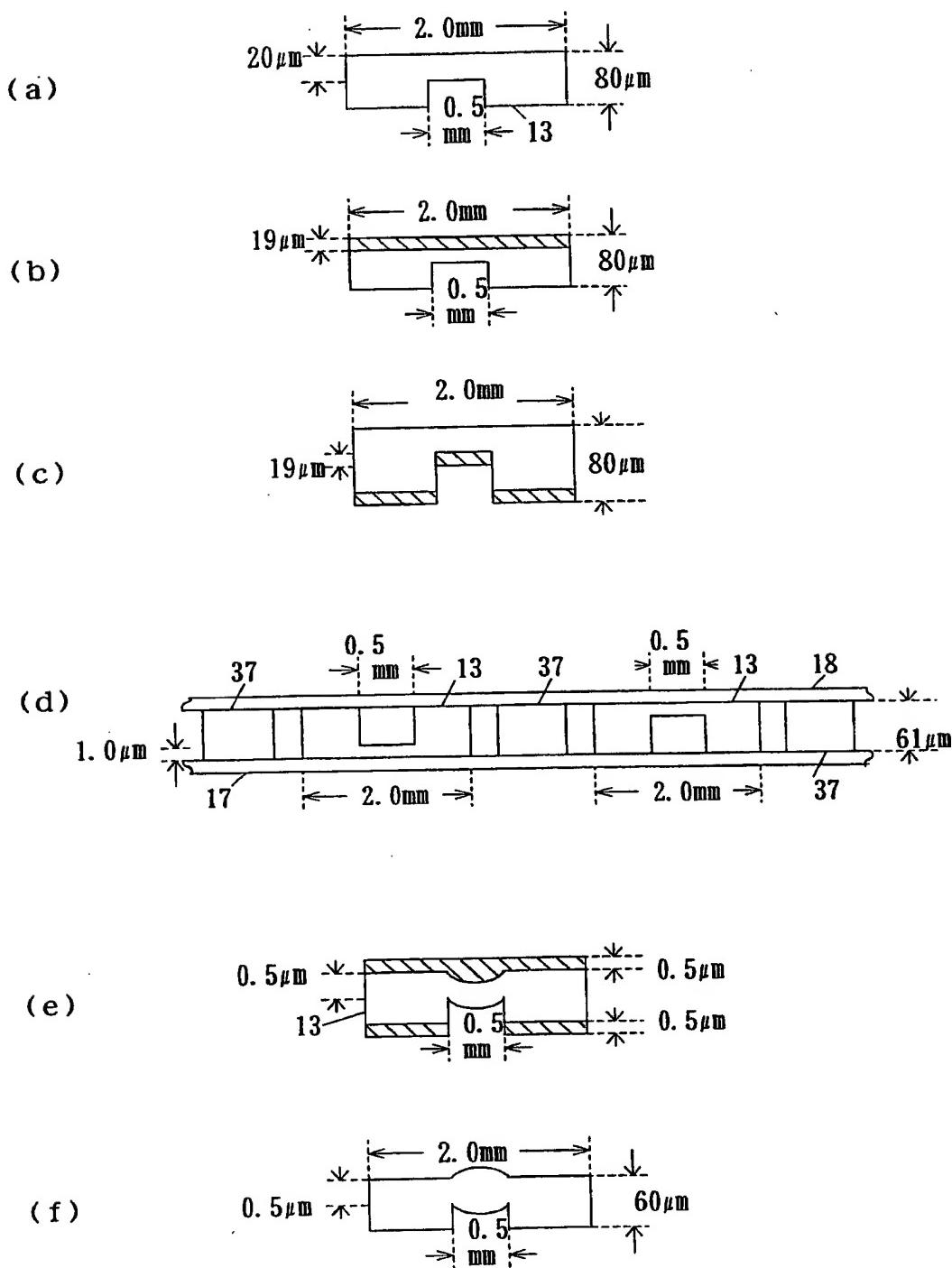


(e)



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Fig. 83



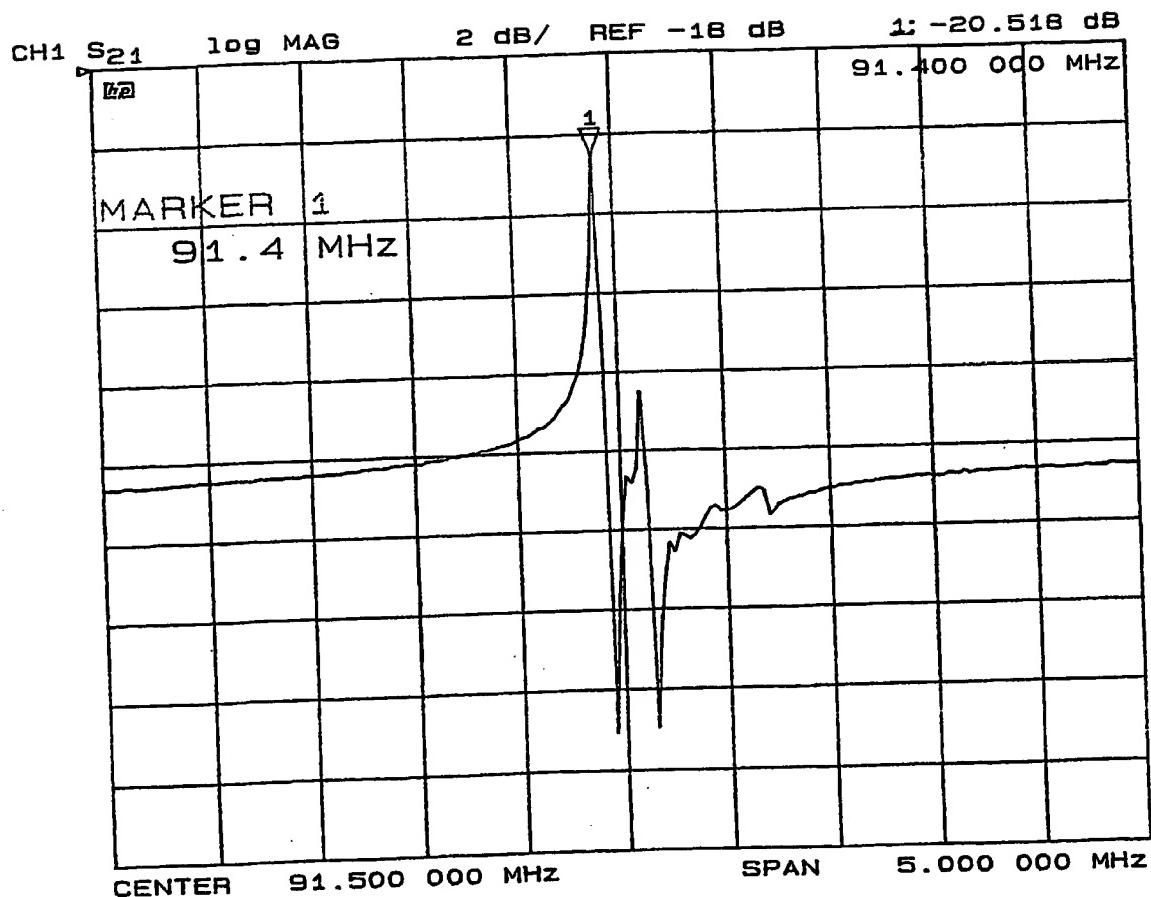
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Fig. 84



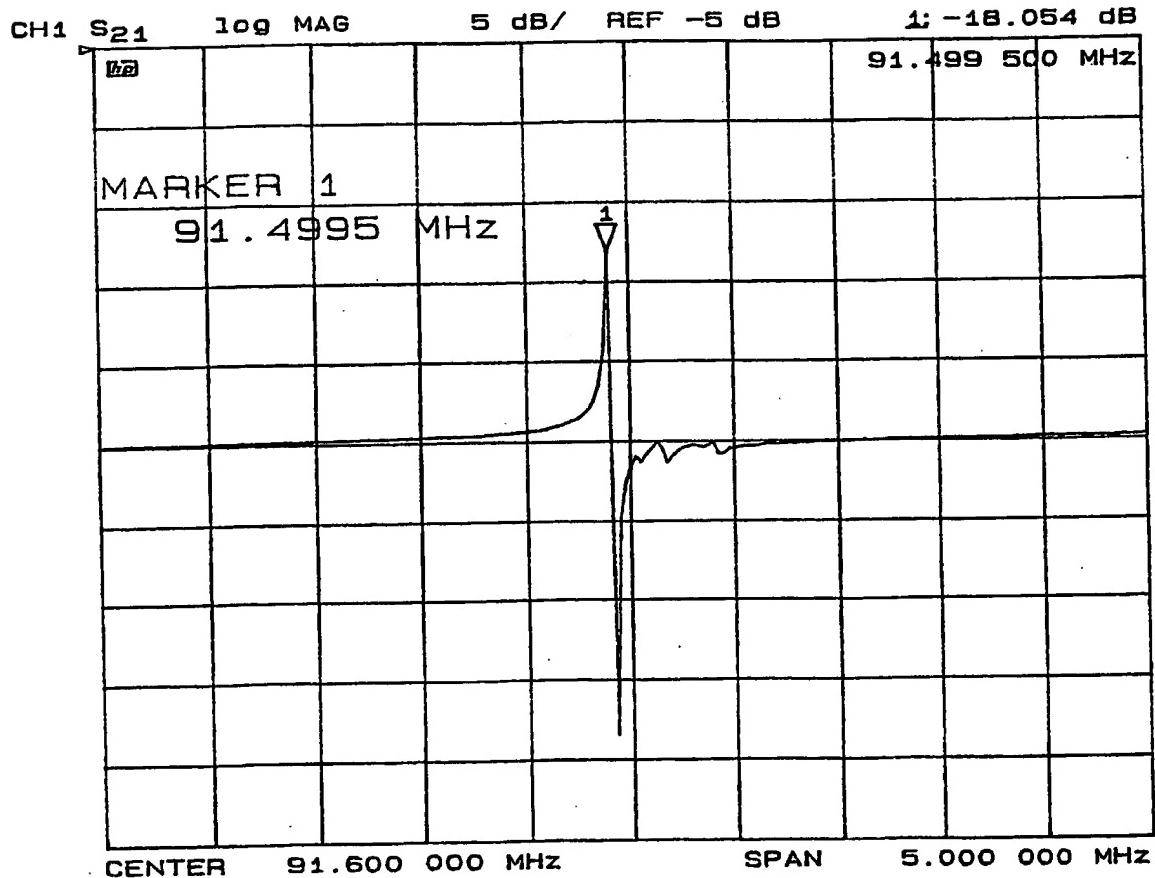
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Fig.85



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Fig. 86

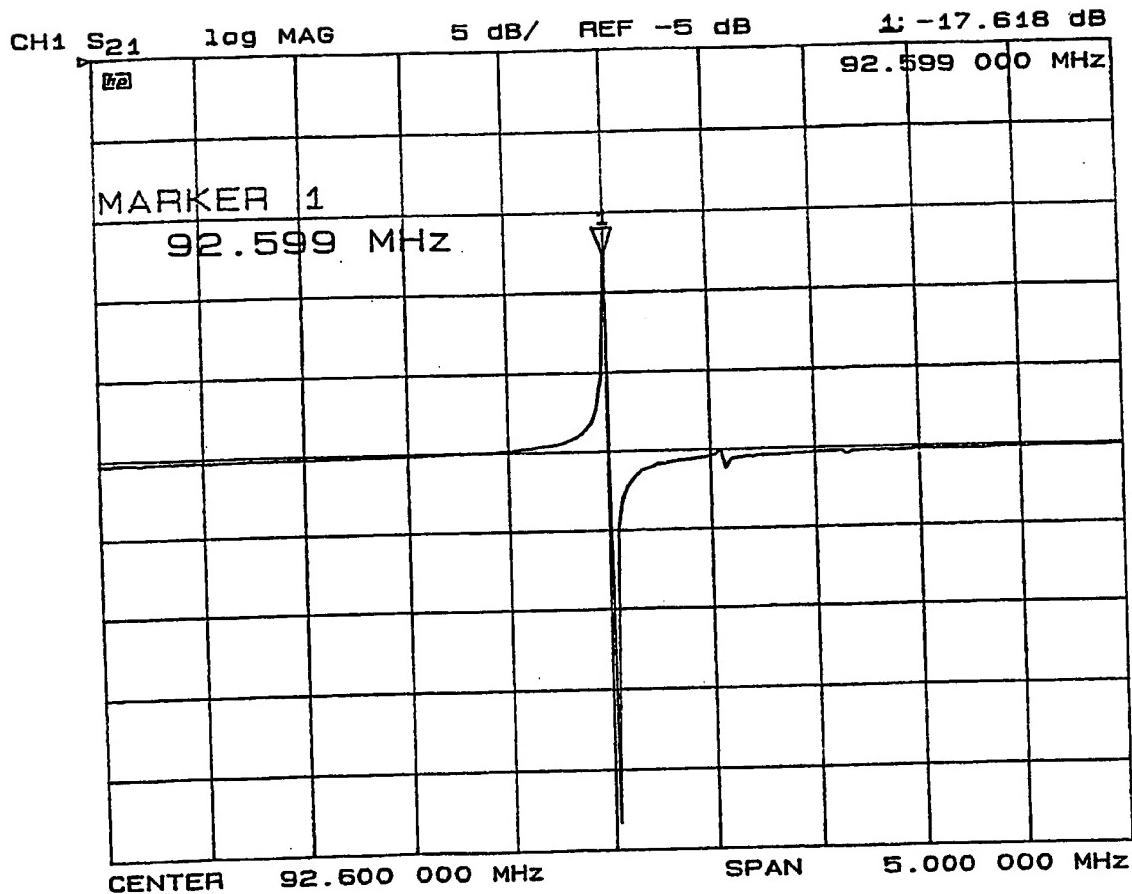


FIGURE 86

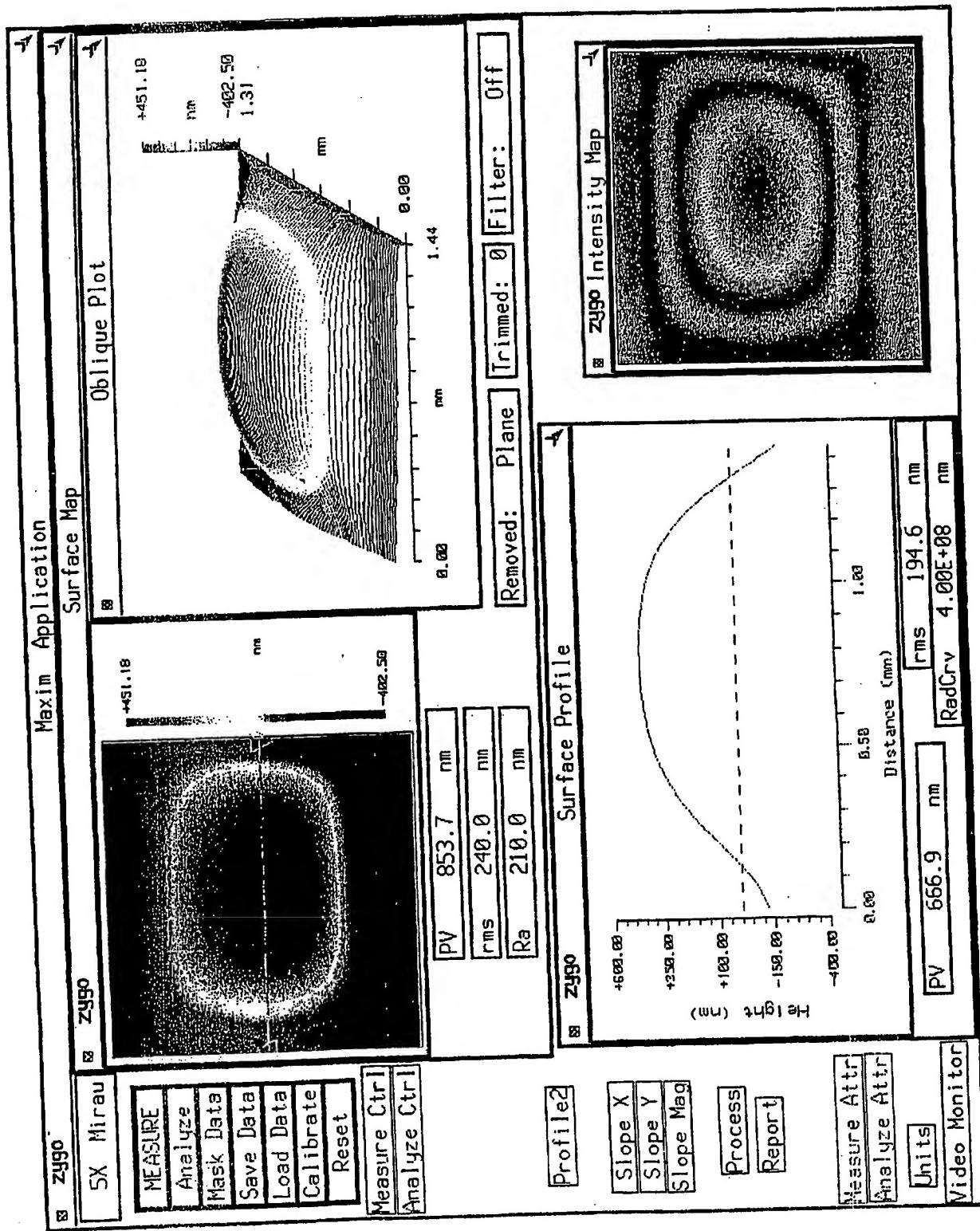
09/914975

PCT/JP00/01691

WO 00/57494

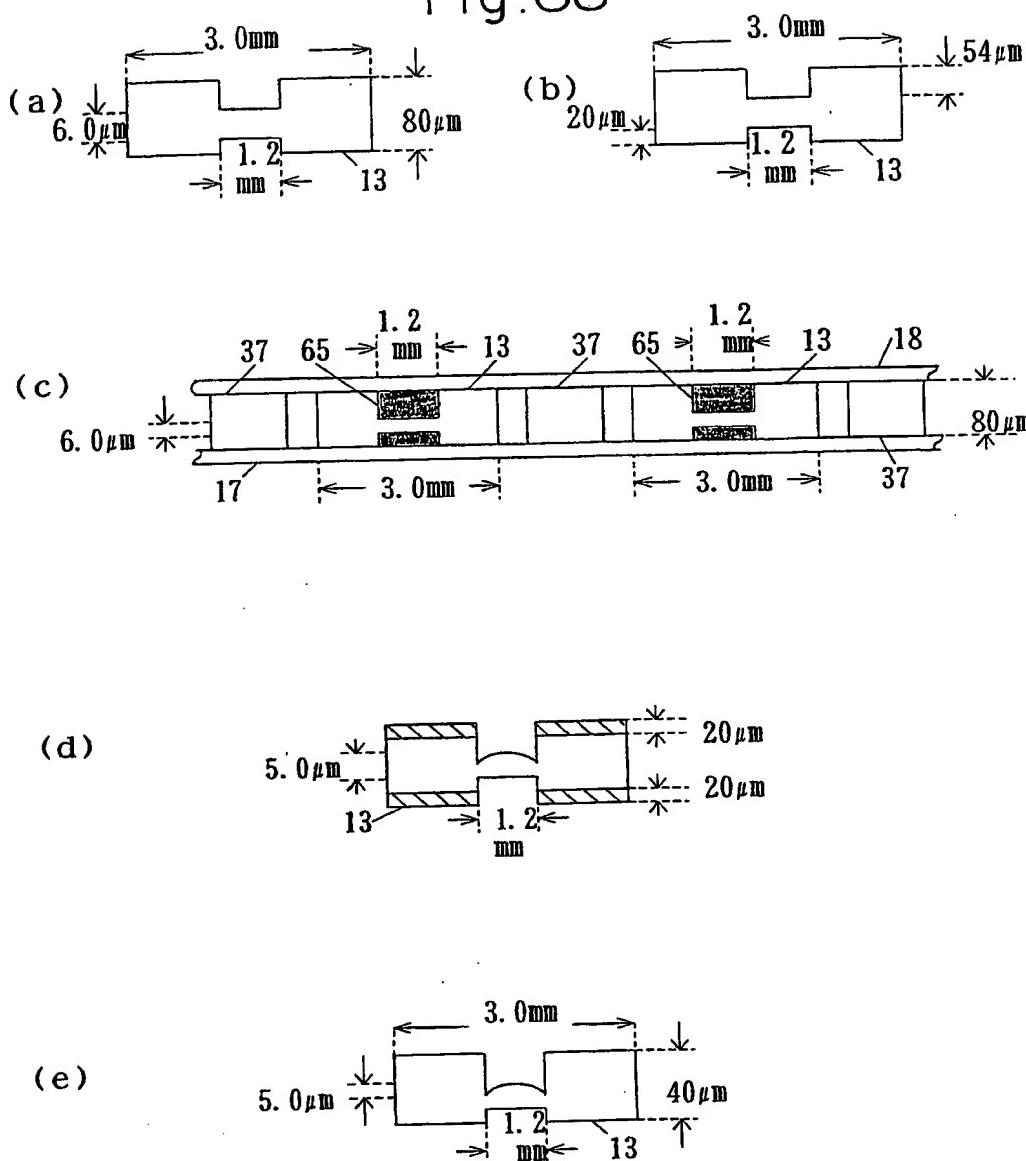
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Fig. 87



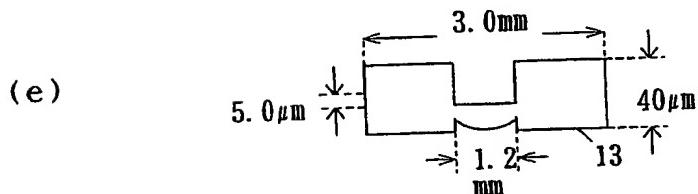
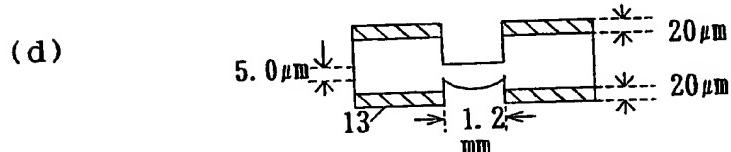
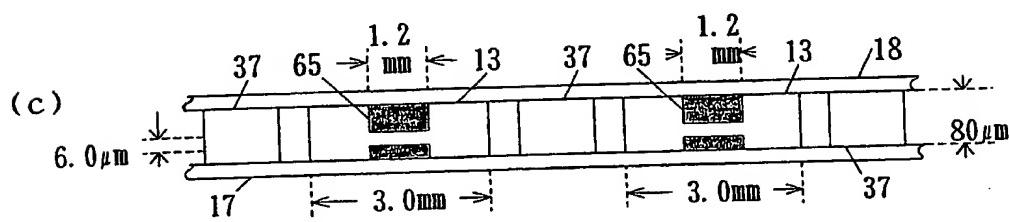
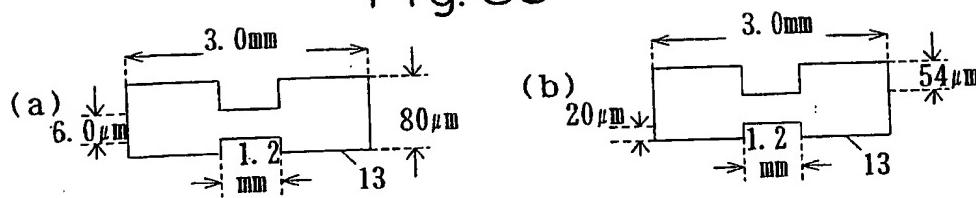
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Fig. 88



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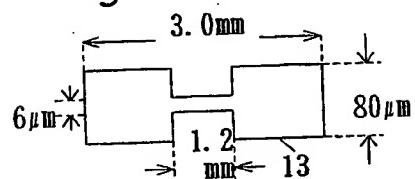
Fig. 89



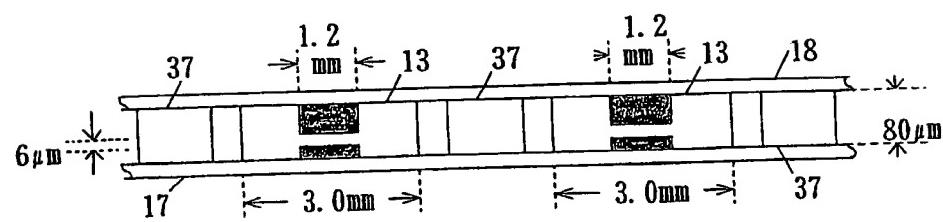
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Fig. 90

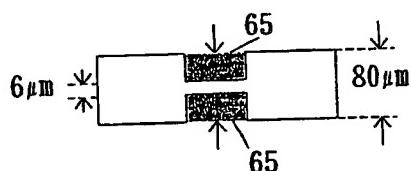
(a)



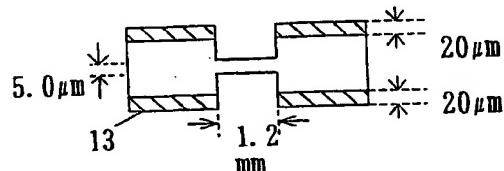
(b)



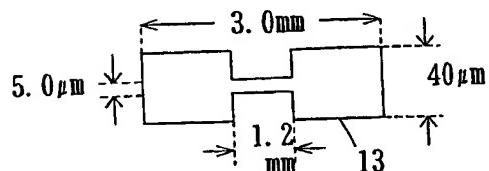
(c)



(d)

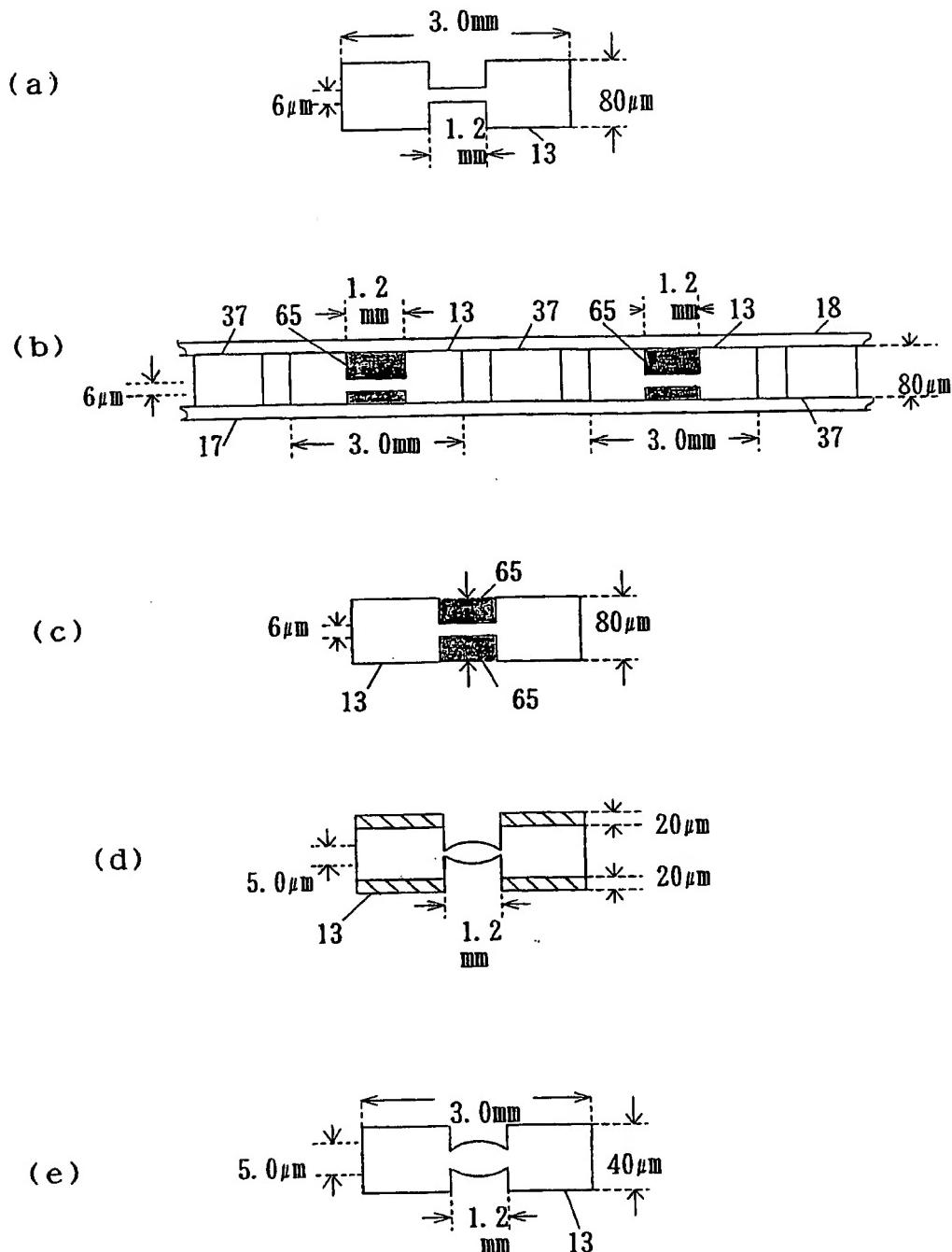


(e)



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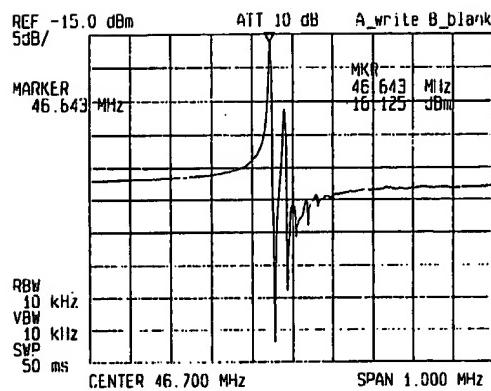
Fig. 91



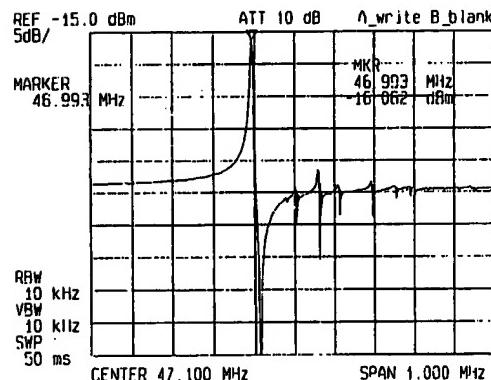
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Fig.92



(a) RIE



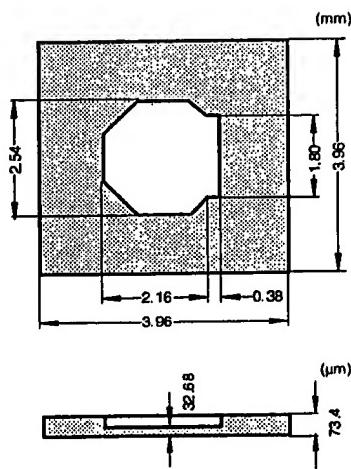
(b) Mechanical polishing after RIE

Fig. 1 Reactance-frequency characteristics
RIE : RF power 240 w, Press. 6.7 Pa,
Gas C₂F₆, 20 sccm

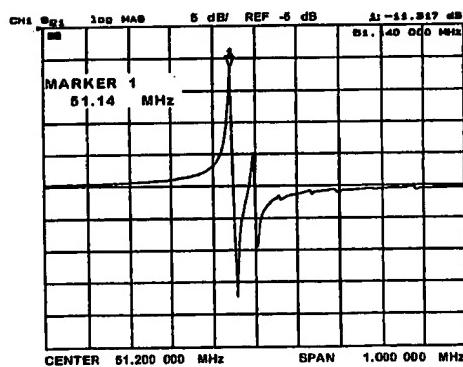
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Fig.93



(a) Initial shape of machining material



(b) Reactance-frequency characteristics

Fig. 2 Machining material used

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Fig. 94

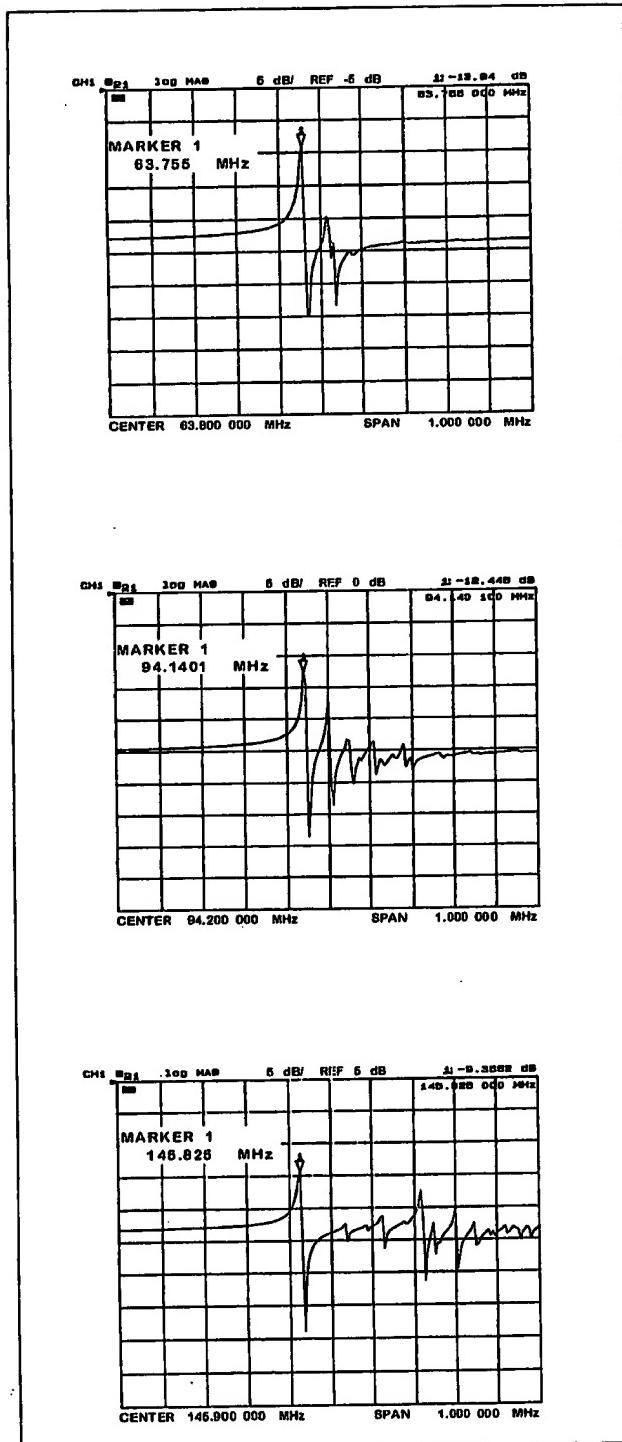


Fig. 3 Reactance-frequency characteristics of machining blanks after RIE

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Fig. 95

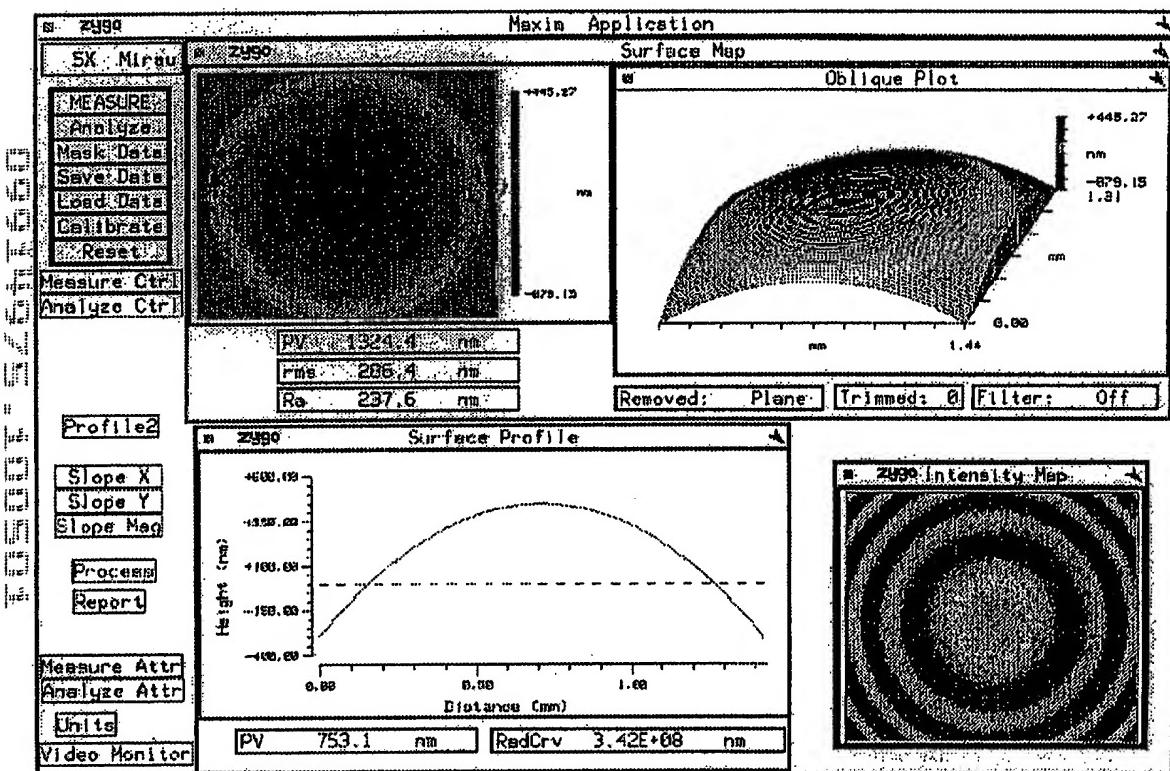


Fig. 4 Measured shape of the flat side oscillating part of the single inverted mesa type quartz blank by using an interference microscope

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Fig. 96

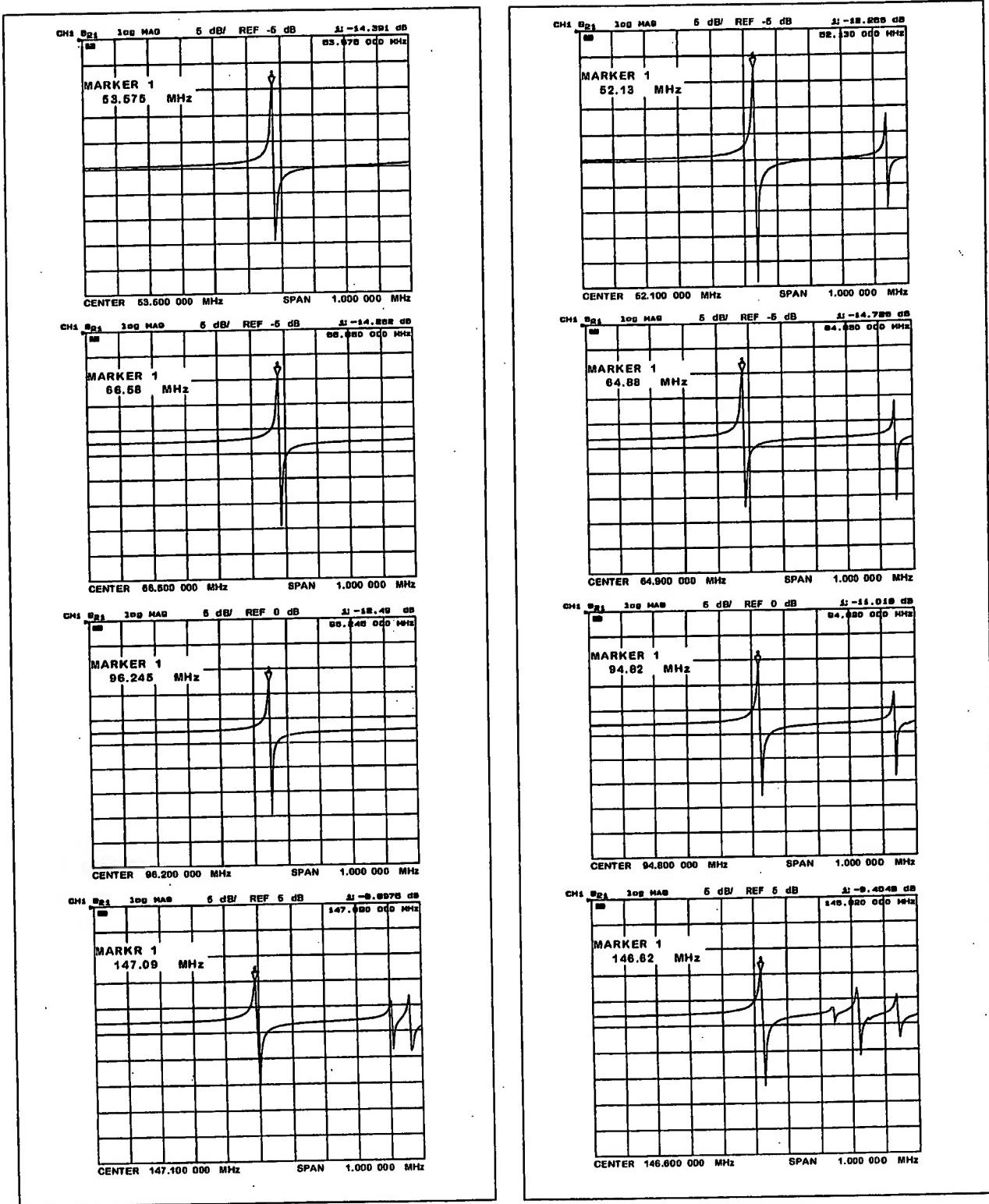


Fig. 5 Reactance-frequency characteristics of blanks polished

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Fig.97

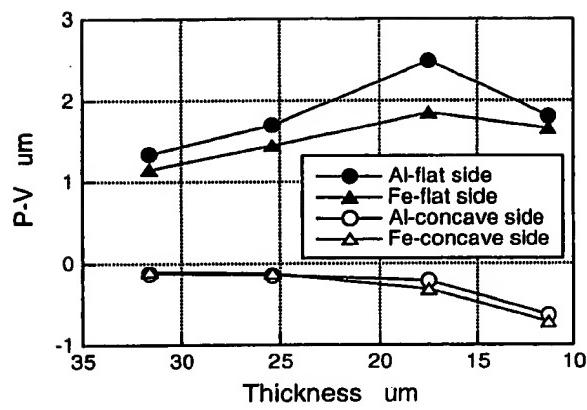


Fig. 6 Peak to valley of the central oscillating part

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Fig. 98

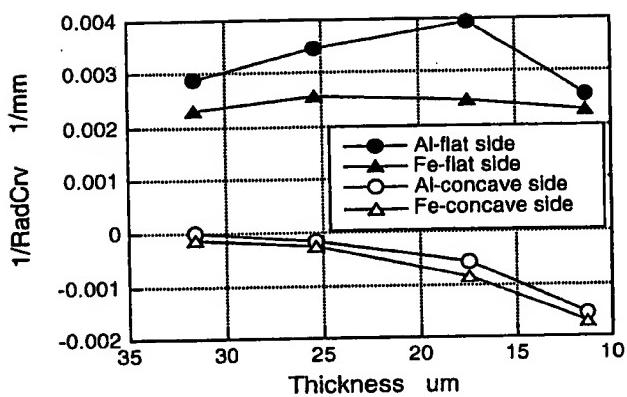


Fig. 7 Curvature radius of the central oscillating part

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Fig.99

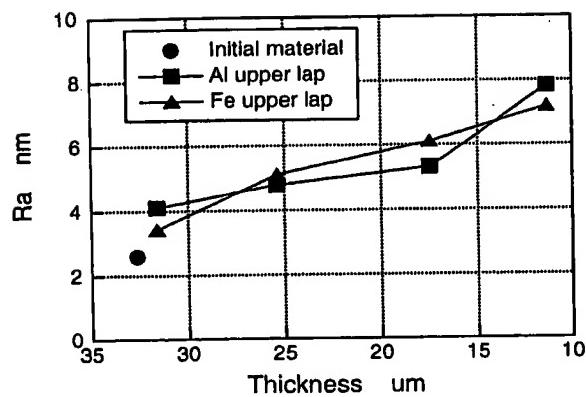
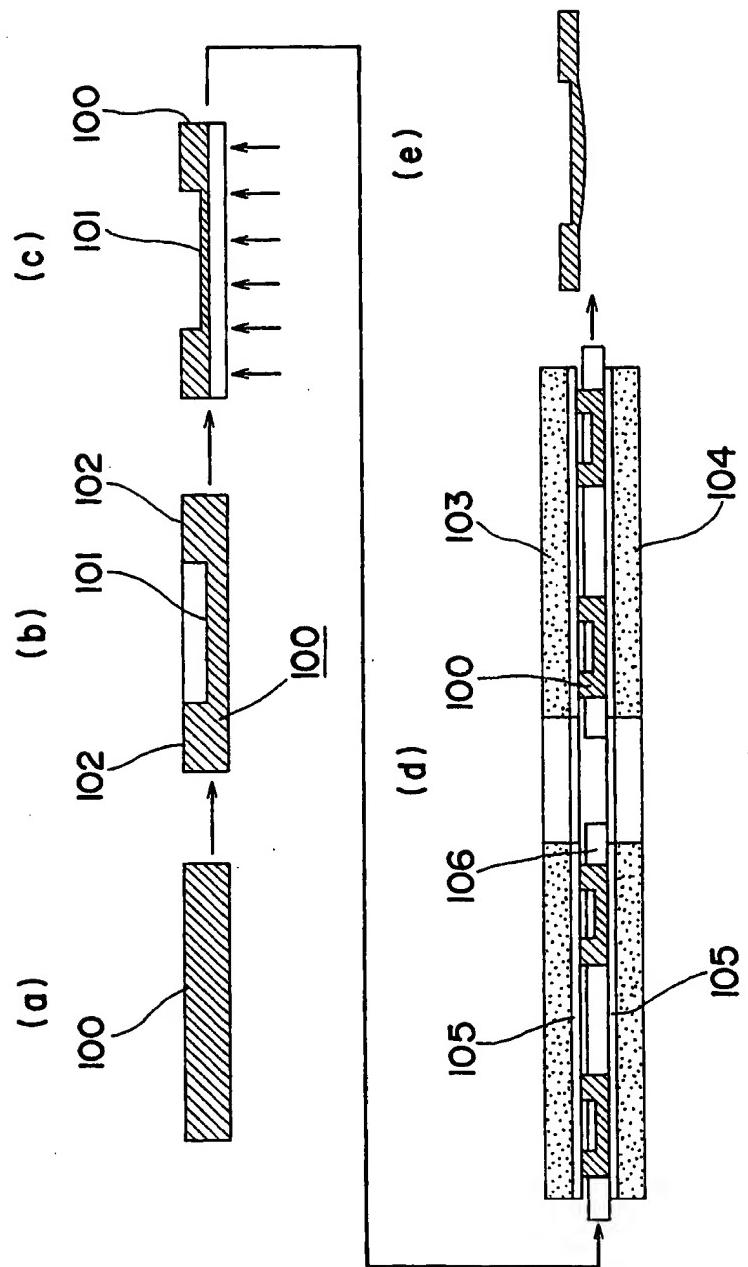


Fig. 8 Surface roughness at the central concave

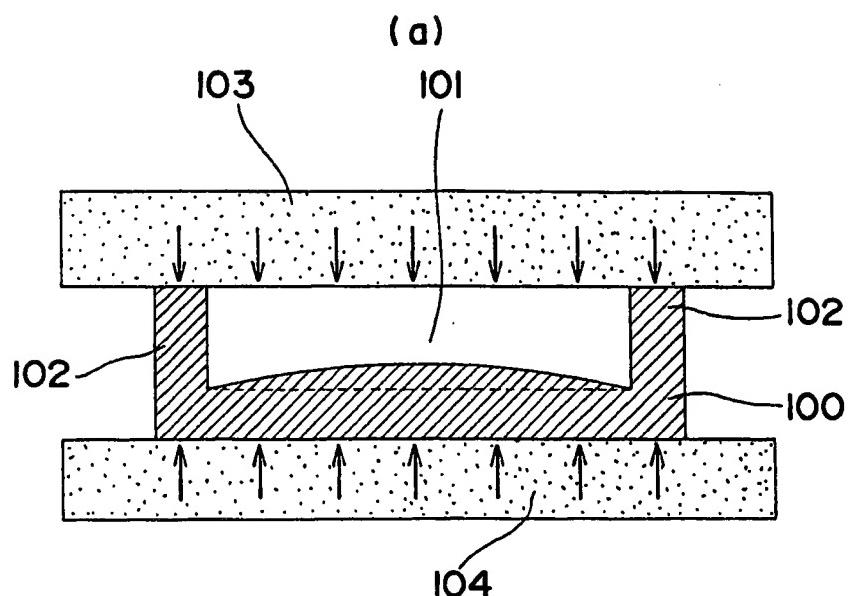
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Fig. 100



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Fig.101



(b)

